THE

AMERICAN JOURNAL

OF THE MEDICAL SCIENCES

FOR OCTOBER 1853.

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TO READERS AND CORRESPONDENTS.

The following works have been received:—

A Treatise on Diseases of the Heart. By O'B. Bellingham, M. D., F. R. C. S., etc. Dublin, 1853. (From the Author.)

General Board of Health. Second Report on Quarantine. Yellow Fever. With Appendix. Presented to both Houses of Parliament, by command of Her Majesty. London, 1852. (From Her Majesty's Commissioners.)

Appendix to the Report of the General Board of Health on the Epidemic Cholera of 1848 and 1849. Abstract of Report by James Wynne, M. D., on Epidemic Cholera, as it prevailed in the United States in 1849 and 1850. Presented to both Houses of Parliament by command of Her Majesty. London, 1852. (From Her Majesty's Commissioners.)

On the Nature and Treatment of some Painful Affections of Bone. Read before the Medico-Chirurgical Society of Queen's College, Birmingham, on Tuesday, October 19, 1852. By Langston Parker, Professor of Anatomy in Queen's College, etc. etc. London and Birmingham, 1852. (From the Author.)

Principles of Medicine; comprising General Pathology and Therapeutics, and a General View of Etiology, Nosology, Semeiology, Diagnosis, Prognosis, and Hygienics. By Charles J. B. Williams, M. D., F. R. S.; late Professor of Principles and Practice of Medicine, &c., in Union College, London, &c. &c. Edited by Meredith Clymer, M. D., &c. Fourth American edition, revised. Philadelphia: Blanchard & Lea, 1853. (From the Publishers.)

The Practice of Surgery. By James Miller, F. R. S. E., F. R. C. S. E., &c. &c. Third American from the second Edinburgh edition. Edited, with Additions, by F. W. Sargent, M. D., one of the Surgeons to Wills Hospital. Illustrated by three hundred and nineteen engravings on wood. Philadelphia: Blanchard & Lea. (From the Publishers.)

The Book of Nature; An Elementary Introduction to the Sciences of Physics, Astronomy, Chemistry, Mineralogy, Geology, Botany, Zoology, and Physiology. By Frederick Schédler, Ph. D., &c. &c. First American edition, with a Glossary, and other Additions and Improvements, from the second English edition. Translated from the sixth German edition, by Henry Medlock, F. C. S., &c. &c. Illustrated by six hundred and ninety-seven engravings on wood. Philadelphia: Blanchard & Lea, 1853. (From the Publishers.)

A Practical Treatise on the Diseases of Children. By D. Francis Condie, M. D., Secretary to the College of Physicians, etc. etc. Fourth edition, revised and augmented. Philadelphia: Blanchard & Lea, 1853. (From the Publishers.)

Dr. Hooper's Physicians' Vade Mecum; or, A Manual of the Principles and Practice of Physic. Considerably enlarged and improved, with An Outline of Pathology and Therapeutics, by Wm. Augustus Guy, M. B., Cantab., &c., Author of "Medical Jurisprudence," &c. With Additions by James Stewart, A. M., M. D., &c. Philadelphia: Edm. Barrington & Geo. D. Haswell, 1853.

A Treatise on Operative Ophthalmic Surgery. By H. Haynes Walton, Fellow of the Royal College of Surgeons in England, &c. &c. First American from the first London edition. Illustrated by one hundred and sixty-nine engravings on wood. Edited by S. Littell, M. D., author of A Manual of the Diseases of the Eye, &c. Philadelphia: Lindsay & Blakiston, 1853.

The Maternal Management of Children, in Health and Disease. By Thomas Bull, M. D., Member of the Royal College of Physicians, &c. Second edition. Philadelphia: Lindsay & Blakiston, 1853.

The Microscopist; or, A Complete Manual on the Use of the Microscope, for Physicians, Students, and all Lovers of Natural Science. Second edition, improved and enlarged. With illustrations. By Joseph H. Wythes, M. D. Philadelphia: Lindsay & Blakiston; London: Trubner & Co., 1853.

Hallucinations; or, The Rational History of Apparitions, Visions, Dreams, Ecstasy, Magnetism, and Somnambulism. By A. BRIERRE DE BOISMONT, M. D. P., &c. &c. First American from the second enlarged and improved Paris edition. Philadelphia: Lindsay & Blakiston, 1853. (From the Publishers.)

A Manual of Obstetrics. By THOMAS F. COCK, M. D., Physician to the New York Lying-in Asylum, etc. New York: Samuel S. & Wm. Wood, 1853.

The Prescriber's Pharmacopœia; containing all the Medicines in the London Pharmacopœia, arranged in Classes according to their Action, with their Composition and Doses. By a Practising Physician. Revised, with Additions. Third American from the fourth London edition. By T. F. COCK, M. D., etc. New York: S. S. & W. Wood, 1853.

The Physician's Visiting List, Diary, and Book of Engagements, for 1854. Philadelphia: Lindsay & Blakiston.

Transactions of the Tennessee State Medical Society, at their Twenty-Fourth Annual Session, convened at Nashville, May 4, 1853. Nashville, 1853.

Transactions of the Medical Association of Southern Central New York, at the Seventh Annual Meeting, held at Ithaca, June, 1853. Auburn, 1853. (From Geo. W. Bradford, M. D.)

Proceedings of the American Pharmaceutical Association, at the Annual Meeting, held in Boston, August 24, 25, and 26, 1853. Published by direction of the Association. Philadelphia, 1853.

Report of the Causes and Prevention of Suits for Mal-Practice in Medicine and Surgery. Boston, 1853.

Cases of Occlusion of the Vagina, with Retention of the Catamenia, relieved by an Operation. By J. MASON WARREN, Surgeon at Massachusetts General Hospital. Boston, 1853. (From the Author.)

Respiration and Nutrition. A Thesis presented to the Medical Faculty of Harvard University, March, 1850. By E. LEIGH, M. D. Boston, 1853. (From the Author.)

The Philosophy of Medical Science, considered with Special Reference to Dr. Elisha Bartlett's "Essay on the Philosophy of Medical Science." A Boylston Prize Essay, 1849. By E. LEIGH. Boston, 1853. (From the Author.)

A Report on the Health and Mortality of the City of Memphis, for the Year 1852. By CHARLES TODD QUINTARD, M. D. Memphis, 1853.

Sixty-Sixth Annual Report of the Regents of the University of the State of New York. Transmitted to the Legislature, March 1, 1853. Albany, 1853.

Essays on Asylums for Persons of Unsound Mind. Second series. By JOHN M. GALT, M. D., Superintendent of the Eastern Lunatic Asylum of Virginia, at Williamsburg. Richmond, Va., 1853. (From the Author.)

Prize Essay. Read before the Ohio State Medical Society, at its Eighth Annual Meeting, in Dayton, June, 1853. By SAMUEL G. ARMOR, M. D. Dayton, 1853. (From the Author.)

An Argument against Professional Patents. By R. ARTHUR, M. D., D. D. S., &c. Baltimore, 1853.

A Discourse on the Life, Character, and Services of DANIEL DRAKE, M. D. Delivered by Request, before the Faculty and Medical Students of the University of Louisville, January 27, 1853. By S. D. GROSS, M. D. Louisville, 1853.

Fracture Tables. By FRANK H. HAMILTON, A. M., M. D., Professor of Surgery in the University of Buffalo, &c. With a Supplement, compiled from Dr. HAMILTON'S Notes, by JOHN BOARDMAN, A. B. Comprising in all an Analysis of 461 Cases of Fractures. Buffalo, 1853.

On the Alteration of the Taste in Paralysis of the Facial Nerve. (Translated from the French, by HOWELL L. THOMAS, M. D.) Richmond, 1853.

Address on Morbid Anatomy. Delivered before the Massachusetts Medical Society, at their Annual Meeting, May 25, 1853 By J. B. S. JACKSON, M. D. Boston, 1853. (From the Author.)

The Annual Address. Delivered before the New York State Medical Society and Members of the Legislature, at the Capitol, February, 1853. By A. CLARK, M. D., President of the Society, &c. Albany, 1853.

Address to the Boston Society of Natural History. By JOHN C. WARREN, M. D., President of the Society. Boston, 1853. (From the Author.)

Catalogue of the Trustees, Faculty, and Students of the Medical College of the State of South Carolina. Session of 1852–'53. Charleston, 1853.

Annual Catalogue and Announcement of the Medical Department of the St. Louis University. Session of 1853–'54. St. Louis, Mo., 1853.

Annual Announcement of Starling Medical College. Session of 1853–'54. And Catalogue of Graduates for the Session of 1852–'53. Columbus, 1853.

Annual Circular of the National Medical College, Washington, D. C. Session of 1853–'54. Washington, 1853.

Annual Announcement of the Medical Department of Pennsylvania College, Ninth Street, below Locust, Philadelphia. Session of 1853–'54. Philadelphia, 1853.

Report of the Trustees of Stockton State Hospital. Made to the Legislature of California, 1853. (From R. K. Reid, M. D.)

Annual Announcement of the Medical Faculty of M'Gill College, Montreal, for the Session of 1853–'54. Montreal, 1853.

Fourteenth Annual Announcement and Catalogue of the Baltimore College of Dental Surgery. Session of 1853–'54. Baltimore, 1853.

The following Journals have been received in exchange:—

Moniteur des Hospitaux. Redacteur en chef, M. H. De Castelnau. July, August, September, 1853.

Gazette Médicale de Paris. March, April, May, June, July, 1853.

Revue de Thérapeutique Médico-Chirurgicale. Publiée par le Dr. A. Martin Lawzer, M. P. P. April, May, June, 1853.

The British and Foreign Medico-Chirurgical Review. July, 1853.

The Journal of Psychological Medicine and Mental Pathology. Edited by Forbes Winslow, M. D. July, 1853.

The Half-Yearly Abstract of the Medical Sciences. Edited by W. H. Ranking, M. D., and C. B. Radcliffe, M. D. January to June, 1853.

The Retrospect of Medicine. Edited by W. Braithwaite, Lecturer on Obstetric Medicine, &c. January to June, 1853.

Association Medical Journal. Edited by John Rose Cormack, M. D. June, July, August, September, 1853.

The Glasgow Medical Journal. July, 1853.

Monthly Journal of Medical Science. Edited by Profs. Christison, Syme, Simpson, Bennett, and Drs. Maclagan and Robertson. June, July, August, September, 1853.

Dublin Medical Press. July, August, September, 1853.

Medical Times and Gazette. July, August, September, 1853.

The Virginia Medical and Surgical Journal. Edited by Geo. A. Otis, M. D., and H. L. Thomas, M. D. July, August, September, 1853.

Buffalo Medical Journal. Edited by Austin Flint, M. D., and S. B. Hunt, M. D. July, August, September, 1853.

The Medical Examiner. Edited by F. G. Smith, M. D., and J. B. Biddle, M. D. July, August, September, 1853.

The Southern Journal of Medical and Physical Sciences. Edited by Drs. King, Jones, Ramsey, Currey, and Wood. July, September, 1853.

The Western Journal of Medicine and Surgery. Edited by L. P. Yandell, M. D., and T. S. Bell, M. D. June, July, 1853.

The North-Western Medical and Surgical Journal. Edited by W. B. Herrick, M. D., and H. A. Johnson, M. D. June, July, August, 1853.

The New Hampshire Journal of Medicine. Edited by Edward H. Parker, M. D. July, August, September, 1853.

The New Orleans Monthly Medical Register. Edited by A. F. Axton, M. D. July, August, and September, 1853.

New Orleans Medical and Surgical Journal. Edited by A. Hester, M. D. July, September, 1853.

The Western Medico-Chirurgical Journal. Edited by J. F. Sanford, M. D. July, 1853.

St. Louis Medical and Surgical Journal. Edited by Drs. M. L. Linton and Wm. M. McPheeters. July, September, 1853.

American Journal of Pharmacy. Edited by Wm. Proctor, Jr., Professor of Pharmacy in Philadelphia College of Pharmacy. July, September, 1853.

The Western Lancet. Edited by L. M. Lawson, M. D., and T. Wood, M. D. June, August, 1853.

The Esculapian. Edited by C. D. Griswold, M. D. June, 1853.

The New York Journal of Medicine and the Collateral Sciences. Edited by Samuel S. Purple, M. D., and Stephen Smith, M. D. July, September, 1853.

New York Medical Times. Edited by H. D. Bulkley, M. D., &c. July, August, September, 1853.

Southern Medical and Surgical Journal. Edited by L. A. Dugas, M. D. July, August, September, 1853.

The New York Medical Gazette. Edited by D. M. Reese, M. D. July, August, September, 1853.

The American Journal of Science and Arts. Conducted by Prof. B. Silliman, B. Silliman, Jr., J. B. Dana, Dr. W. Gibbs, and A. Gray. July, September, 1853.

The American Journal of Insanity. Published by the New York State Lunatic Asylum, Utica. July, 1853.

The New Jersey Medical Reporter, and Transactions of the New Jersey Medical Society. Edited by Joseph Parrish, M. D. July, August, 1853.

New York Journal of Pharmacy. Published by Authority of the College of Pharmacy of the City of New York. Edited by Benj. W. McCready, M. D. June, July, August, September, 1853.

The Medical Chronicle. Edited by William Wright, M. D., and D. C. MacCallunn, M. D. July, September, 1853.

The Charleston Medical Journal and Review. Edited by D. J. Cain, M. D., and F. P. Porcher, M. D. July, September, 1853.

The Ohio Medical and Surgical Journal. Edited by Richard L. Howard, M. D. July, September, 1853.

Transylvania Medical Journal. Edited by L. J. Frazee, M. D. July, 1853.

The Stethoscope, and Virginia Medical Gazette. Edited by P. C. Gooch, M. D. August, September, 1853.

The American Journal of Dental Science. Edited by C. A. Harris, M. D., D. D. S., and A. A. Blandy, M. D., D. D. S. July, 1853.

Iowa Medical Journal. Conducted by the Faculty of Iowa University. August, September, 1853.

The American Psychological Journal. Edited by Edward Mead, M. D. March, 1853.

Kentucky Medical Recorder. Edited by H. M. Bullitt, M. D., and R. J. Breckenridge, M. D. September, 1853.

The Peninsula Journal of Medicine and the Collateral Sciences. Edited by E. Andrews, A. M., M. D., etc. September, 1853.

The Boston Medical and Surgical Journal. Edited by J. V. C. Smith, M. D. July, August, September, 1853.

Communications intended for publication, and Books for Review, should be sent, *free of expense*, directed to Isaac Hays, M. D., Editor of the American Journal of the Medical Sciences, care of Messrs. Blanchard & Lea, Philadelphia. Parcels directed as above, and (carriage paid) under cover, to John Miller, Henrietta Street, Covent Garden, *London;* or to John Wiley or G. P. Putnam, *New York;* or W. D. Ticknor, *Boston;* or M. Hector Bossange, Lib. quai Voltaire, No. 11, *Paris*, will reach us safely and without delay. We particularly request the attention of our foreign correspondents to the above, as we are often subjected to unnecessary expense for postage and carriage.

All remittances of money, and letters on the *business* of the Journal, should be addressed *exclusively* to the publishers, Messrs. Blanchard & Lea.

☞ The advertisement-sheet belongs to the business department of the Journal, and all communications for it should be made to the publishers.

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XVII. A Practical Treatise on the Diseases of Children. By D. Francis Condie, M. D., Secretary of the College of Physicians; Member of the American Medical Association; Member of the American Philosophical Society, etc. Philadelphia: Blanchard & Lea, 1853. - - - 425
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XIX. A Discourse on the Life, Character, and Services of Daniel Drake, M. D. Delivered, by request, before the Faculty and Medical Students of the University of Louisville, January 27, 1853. By S. D. Gross, M.D. 8vo. 1835: pp. 92.
A Biographical Notice of Daniel Drake, M. D., of Cincinnati. Prepared by appointment of the College of Physicians of Philadelphia. By Charles D. Meigs, M. D., Vice-President of the College. Read at the Meeting, July, 1853. 8vo. pp. 38. - - - - - 436
XX. L'Huile de Foie de Morue envisagée sous tous Les Rapports comme Moyen Thérapeutic, par L. J. De Jongh, Docteur-médecin à La Haye. Paris, 1853: 8vo. pp. 362
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XXIII. The Action of Medicines in the System, or "On the Mode in which Therapeutic Agents introduced into the Stomach produce their peculiar Effects on the Animal Economy." Being the Prize Essay to which the Medical Society of London awarded the Fothergillian Gold Medal for MDCCCLII. By Frederick William Headland, B. A., M. R. C. S., etc. Philadelphia: Lindsay & Blakiston, 1853. 8vo. pp. 560. - - 442
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M. A. N. S., and edited, with notes, by James C. Booth, Melter and Refiner U. S. Mint, and William L. Faber, Metallurgist and Mining Engineer. Philadelphia: Clark & Hesser. 2 vols. 8vo. - - - 447
XXV. Principles of Organic and Physiological Chemistry. By Carl Löwig, Ordinary Professor of Chemistry in the University of Zürich, &c. Translated by Daniel Breed, M. D., of the U. S. Patent Office. Philadelphia: A. Hart, 1853. 8vo. pp. 481. - - - - - - 448
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XXVIII. Practical Observations on Aural Surgery, and the Nature and Treatment of Diseases of the Ear. With Illustrations. By William R. Wilde, F. R. C. S. I., Surgeon to St. Mark's Ophthalmic Hospital, &c. Philadelphia: Blanchard & Lea, 1853. 8vo. pp. 475. - - - 450

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THE

AMERICAN JOURNAL

OF THE MEDICAL SCIENCES

FOR OCTOBER 1853.

ART. I.—*Medical and Surgical Notes of Campaigns in the War with Mexico, during the years* 1845, 1846, 1847, *and* 1848. By JOHN B. PORTER, M. D., Surgeon U. S. Army.

OUR last paper left us at Saltillo, at the end of 1846, with the quarterly reports of sick brought up, and we will now sum up the vital statistics of the Artillery Battalion for the whole year.

Abstract of Diseases in the Artillery Battalion and Duncan's Battery, during the year 1846. *From Quarterly Reports.*

DISEASES.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Continued fever . . .	1	...	2	1	7	9	4	1	12	5	4	3	49
Intermittent fever . .	...	2	...	1	...	3	8	13	24	178	247	125	601
Remittent fever . . .	...	...	...	...	...	2	3	...	...	22	7	7	41
Eruptive fever . . .	...	...	...	...	...	...	...	...	...	1	...	...	1
Typhoid fever . . .	...	...	...	...	...	...	...	...	...	...	...	1	1
Diarrhœa	20	2	4	3	3	19	14	43	41	25	18	12	204
Dysentery	8	17	14	29	26	15	19	58	29	25	9	3	252
All others of digestive system	7	5	3	7	9	8	6	8	9	1	3	4	70
Catarrh	45	38	18	16	5	16	5	16	36	17	18	16	246
All others of respiratory system . . .	2	...	...	1	1	...	...	2	1	0	2	3	12
Brain and nervous system .	3	...	3	4	8	2	...	1	...	...	1	...	22
Fibrous and muscular tissues	7	9	5	6	3	...	...	4	1	1	1	1	38
Urinary and genital organs	...	...	...	...	1	2	1	3	1	2	...	17	27
Abscesses and ulcers . .	20	3	11	11	18	4	6	20	7	3	9	2	114
Wounds and injuries . .	9	9	10	6	33	14	9	29	51	7	17	8	202
All other diseases . .	9	24	9	19	8	35	25	48	17	7	13	10	224
Total taken sick in 1846 .	131	109	79	104	122	129	100	246	229	294	349	212	2104

Sent to the general hospitals	193
Returned to duty	1871
Discharged for disability	3
On furlough	1
Deserted	2
Died	13
	2083
Remaining sick December 31, 1846	82
	2165
Deduct number sick December 31, 1845	61
Total taken sick in 1846	2104

MEAN STRENGTH.

Months.	Officers.	Men.	Total.
January	39	512	551
February	40	513	553
March	41	536	557
April	36	454	490
May	32	393	425
June	34	410	444
July	21	255	276
August	27	507	534
September	30	586	616
October	29	504	533
November	32	617	649
December	26	485	511
Aggregate	387	5772	6149
Average	32	481	513

Mortality in the Battalion and Battery, from all Causes, in all the Hospitals, in 1846.

CAUSE OF DEATH.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Killed in battle[1]	...	...	...	...	2	...	...	...	4	...	...	...	6
Died of wounds received in battle	...	...	...	...	5	1	...	...	2	2	...	...	10
Congestive fever	...	...	...	...	...	...	...	1	...	...	...	...	1
Continued fever	1	...	...	...	...	...	1	1	...	...	2	1	6
Quotidian intermittent	...	...	...	...	...	...	...	...	...	...	1	...	1
Remittent fever	...	...	...	...	...	...	1	...	...	...	...	...	1
Dysentery, acute and chronic	...	...	1	...	...	2	1	...	...	1	...	1	6
Icterus	...	...	...	...	...	...	...	...	...	...	...	1	1
Phthisis pulmonalis	...	...	...	...	...	...	...	...	...	1	...	...	1
Pneumonia	...	...	...	...	...	...	...	...	...	1	...	...	1
Apoplexy	...	...	...	...	...	...	...	...	...	...	1	...	1
Wounds and injuries not received in battle	...	...	...	...	...	...	...	...	1	1	...	1	3
Angina pectoris	...	...	...	...	...	...	...	...	1	...	...	...	1
Hypertrophia cordis	...	1	...	...	...	...	...	...	...	...	...	...	1
Submersio[1]	...	...	...	...	...	1	...	1	...	...	...	...	2
Unknown[1]	...	...	...	...	...	...	1	...	...	2	1	2	6
	1	1	1	...	7	4	4	3	8	8	5	6	48

[1] Sudden deaths do not appear in the reports to the Surgeon-General, not having been subject to treatment. There is no record of the "unknown" cases, in relation to the cause of death, in either the Surgeon-General's or Adjutant-General's offices.

From the foregoing tables a squadron of dragoons—say 150 men—is to be deducted from the mean strength, from the 21st to the end of November, having 47 cases of disease, viz.: Continued fever, 2; intermittent, 10; remittent, 1; diarrhœa, 4; dysentery, 1; acute bronchitis, 2; catarrh, 12; wounds and injuries not received in battle, 8; all others, 7. One death from continued fever. Deduct these, and we have as correct a report of the battalion and battery for the year as can be made. Duncan's battery joined our division on the 9th of March, the day we took up the line of march to the Rio Grande from Corpus Christi.

The tables show that the strictly climatic diseases amount to 1147; deaths from them 16, or 1.40 per cent. Even admitting the deaths from unknown causes, the mortality is only 1.92 per cent. Mortality from fevers 1.29 per cent. Admit that the unknown cases died of fever, the mortality is 2.16 per cent. Mortality from diarrhœa and dysentery, 1.32 per cent.; and admitting what is not probable, that all the deaths from unknown causes were from these diseases, the mortality would be 2.63 per cent. It must be recollected that we were on the line of the Rio Grande, with regular troops. The line from Vera Cruz to the City of Mexico will show different results. Mortality per cent. for the year, 2.24 per cent.

Humboldt says of Saltillo:—

"Cette ville est entourée de plaines arides, dans lesquelles le voyageur souffre beaucoup du manque de sources."

Of the country which constitutes the bishopric of Monterey, geology and climate, the same author speaks as follows:—

"L'évêché de Monterey, qui porte le titre pompeux de Nouveau royaume de Leon, Cohahuila, Santander et Texas, sont des régions très basses; elles présentent peu de mouvement de terrain, et le sol y est couvert de formations secondaires et d'alluvions. Leur climat est assez inégal, excessivement chaud en été, et d'une fraîcheur extraordinaire en hiver, lorsque le vents du nord chassent des colonnes d'air froid de Canada vers la zone torride."

The winter climate of Saltillo is more severe than that of Monterey. On the morning of November 25, 1846, the ice was one-eighth of an inch in thickness; December 19th to the 22d very cold, and on the morning of the 20th there was ice; January 1, 1847, cold, and a snow-like atmosphere; January 7, a very cold morning, following a very cold night, and thick ice on still water; January 8, last night very cold, and the ice this morning is at least half an inch thick. From our entrance into the town, November 16, to the time of our departure, January 9, there was no rain; the fields being watered by a system of irrigation.

In the country around Saltillo, there are large quantities of the maguey, Agava Americana, from the juice of which is made the favourite *pulque* of the Mexicans. This plant was cultivated by the ancient inhabitants, for Bernal Diaz mentions it on the march of Cortez from Vera Cruz to the City of Montezuma, in 1519: "Y desde aquellas sierras pasamos adelante, y era

llano, y habia muchas casas de labranzas de maiz y magiales, que es de lo que hacen el vino." Clavigero says: "El vino mas comun, y el mejor de los Megicanos es el de maguei, que ellos llaman *octli*, y los Españoles *pulque*." Humboldt (in 1802) and Bullock (in 1823) both speak of the large groves of the maguey, and the immense consumption of pulque by the inhabitants. The Mexicans consider the pulque a wholesome beverage, and it certainly is much more so than the *aguardiente* of the country. Many of our men fortunately became attached to it, it being a much better drink on every account, better for the individual and better for the service, than the Anglo-Saxon alcoholic stimulants. Humboldt says that the pulque is regarded *comme stomachique, fortifiant, et trés nourrissant.* In the *New York Medical Journal* for September, 1851, there is an interesting report from Assistant-Surgeon Glover Perin, U. S. A., to the Surgeon-General, in relation to the maguey, from which report it appears that the expressed juice of this plant is an undoubted antiscorbutic.

Jan. 9th, 1847. Our division was put *en route* for the mouth of the Rio Grande, via Monterey, Camargo, and Matamoras, Vera Cruz being the object of the movement. This march was a severe one.

10*th*. Last evening and in the night there was rain, and it rained pretty steadily through the day. The march was cold and uncomfortable. Encamped at Pass Rinconada.

11*th*. Last night was uncomfortably cold, and this morning the ground and wet tents were stiffly frozen. During the whole of this day's march there was a cold easterly wind, the sky was clouded, and everybody was uncomfortable. I have rarely suffered more from cold.

12*th*. Last night encamped five miles from Monterey. A bitter cold night. Fine day.

13*th* and 14*th*. Warm. Road very dusty.

15*th*. A long, hot, dusty, and disagreeable march. Encamped at Cerralvo.

16*th*. A norther came up, cold, disagreeable, with clouds of dust through the day.

17*th*. Cool, clouds of dust.

18*th*. Quite warm.

19*th*. The first part of last night quite warm, but in the night the wind changed, and it blew a norther before morning. Clouds of sand flying to-day. A horribly cold and disagreeable march. Arrived at Camargo.

By the last of the month an encampment was fully formed on the Rio Grande, preparatory to embarkation for Vera Cruz, about equidistant from Matamoras and the mouth of the river, a few miles from the battle-field of Palo Alto; hence the name of our camp, Palo Alto. Here the battalion was broken up, the companies composing it joining their respective regimental colours.

Communication to the Surgeon-General:— * * * * *

"Our entire division was embarked for Vera Cruz by the 20th of February, 1847, the rendezvous for the whole fleet of transport ships being Lobos Island, off the Mexican coast, in lat. 19° 26′ N. March 2d. Made sail for Point Anton Lizardo, about 12 miles below Vera Cruz, lat. 19° 4′ N., lon. 95° 59′ W., where we arrived on the 5th. March 9th. Our division landed on the beach near Vera Cruz, nearly opposite the island of Sacrificios, a little before sunset, and

immediately took possession of the sand-hills in front. Patterson's volunteer division and the reserve under Gen. Twiggs followed during the night. The town was invested as rapidly as possible, and on the 22d our mortar batteries opened, which compelled the enemy to send proposals of accommodation on the 26th, and on the 29th we took possession of both the town and the castle of San Juan de Ulua by articles of capitulation."

The site of modern Vera Cruz was discovered by Juan de Grijalva, in 1518. Bernal Diaz, who was in the expedition, gives a description in his *Historia Verdadera de la Conquista de la Nueva España*, tom. ii. capitulo XIV. as follows:—

"Desembarcados en unos arenales hicimos chozas encima de los mastos y medaños de arena, que los hay por alli grandes, por causa de los mosquitos, que habia muchos, y con bateles ondearon muy bien el puerto, y hallaron, con el abrigo de aquella Isleta estarian seguros los navios del Norte, y habia buen fondo."

According to the above account of Bernal Diaz, it would seem that nearly everything was presented more than three hundred years ago, as at the present time; the sands, the mosquitos, the little isle named by the discoverers San Juan de Ulua, the port, the anchorage, and the northers.

Hernando Cortes landed on the same spot the year after the discovery by Grijalva, as related by Bernal Diaz:—

"En Juéves Santo de la Cena del Señor, de mil y quinientos y diez y nueve años, llegamos con toda la Armada al puerto de San Juan de Ulua. * * * Y otro dia, que fué Viérnes Santo de la Cruz, desembarcamos, asi caballos como artilleria, en unos montones de arena, que no habia tierra llana."

Clavigero, himself a Vera Cruzano, gives the history of the foundation of the different cities:—

"La primera, fundada en 1519 cerca del puerto de Quiahuitztla, que conservó despues el nombre de Villa Rica; la segunda, la antigua Vera Cruz, fundada en 1523 o' 1524; y la tercera, la nueva Vera Cruz, que hoy conserva este segundo nombre, y fué fundada por órden del conde de Monterey, virey de México, á fines del siglo XVI., y recibo de Felipe III. el titulo de ciudad en 1615."

It appears that La Villa Rica de la Vera Cruz was founded in 1519; that the second town, la antigua Vera Cruz, was built in 1523 or 1524; and the modern town towards the end of the sixteenth century, receiving the privileges of a city in 1615. The first town would probably have occupied the site of the modern one but for the uninviting appearance of the place, the sand-hills, and the mosquitos and other insects; for Bernal Diaz says, in 1519:—

"Y dexallos he agora, y pasemos adelante, y digamos, que en aquellos arenales donde estabamos habia siempre muchos mosquitos zancudos, como de los chicos, que llaman xexenes, y son peores que los grandes, y no podiamos dormir dellos."

Villa Rica de la Vera Cruz, built near the ancient Mexican town of Quiahuitzlan, and about 40 miles (Bernal Diaz says *doce leguas*) from the site of modern Vera Cruz, was given up by reason of its exposed situation, the ships

having no protection from the northers; and Vera Cruz Antigua, at the mouth of the River Antigua, now called Vera Cruz Vieja, to distinguish it from the new town, or Vera Cruz Nueva, was abandoned on account of its insalubrity.

The geology of modern Vera Cruz is soon given, in the language of Humboldt: "Les sables couvrent les formations secondaires qui reposent sur le porphyre de l'Encero." Bullock, 1823, says, after Humboldt:—

"The whole town, as well as the castle, is built of coral (Madrepora meandrities); and the lime that forms the cement is of the same material, and the same is used for the roofs and pavements; it is so hard that in some places it receives, from friction, a polish like marble."

Malte-Brun says:—

"La jolie ville de *La Vera Cruz*, siége des autorités de l'État qui porte son nom, ne doit rien aux faveurs de la nature. Les rochers de madrépores dont elle est construite ont été tirés du fond de la mer; la seule eau potable est recueillie dans des citernes; le climat est chaud et malsain; des sables arides et brûlants entourent la ville au nord, tandis qu' on voit s'étendre au sud des marais desséchés."

Vera Cruz is situated in the low country, *tierra caliente*, nearly on a level with the sea, in lat. 19° 11′ 52″ N., lon. 96° 8′ 36″ W. It is a walled town, in shape a parallelogram, with strong batteries at the angles, being perhaps half a mile in width, and two miles in length. The town is well built, with broad streets, which are easily drained, the gutter being in the middle of the street. In the rainy season the water rushes down these gutters, and carries the offal to the seashore, from which it can be easily removed. Back of the town, beyond the sand-ridges, are some swamps, which are supposed by some, as Poinsett and Prescott, to be the principal cause of insalubrity. But Vera Cruz is so situated in relation to the immediate interior, that the streets can be daily washed; and I am informed by a gentleman of undoubted veracity, recently from the place, that the streets have been daily washed during the past year (1852), the consequence being that only seven cases of yellow fever were reported within the year. Having little confidence in city reports of vital statistics, I am willing to multiply 7 by 40, and then compare disease and death in Vera Cruz with disease and death in Norfolk, Wilmington, Charleston, Savannah, and New Orleans, for 1852. The comparison would be highly favourable to Vera Cruz. In 1847, under the most unfavourable circumstances, in a state of war, having sustained a siege, and in wretched police, Vera Cruz was much less afflicted with malignant yellow fever, bad as the disease was, than New Orleans, and so it will probably continue to be. During the past year, Vera Cruz has undoubtedly been the best policed city on this continent.

The foregoing is sufficient for the geology and medical topography of the city.

Population.—This has diminished in a series of years. In 1847, the town might have contained 4000 or 5000 inhabitants; Brantz Mayer estimates the

number at 6500; Bullock, 1823, gives the number as about 7000; and Humboldt says, 1802: "La population habituelle de Vera Cruz, sans compter la milice et les gens de mer, est de 16,000."

Climate.—Extracts from the Meteorological Register of 1847.

MONTHS.	DETACHED THERMOMETER.					WET-BULB.		Highest degree.	Lowest degree.	Hottest daily mean.	Coldest daily mean.	Rain in inches.
	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Daily Mean.	Sunrise.	3 P. M.					
June	77.83	81.55	83.36	81.56	80.60	76.00	78.79	85	72	83.	77.	4.15
July	75.13	80.00	82.06	80.93	78.59	74.06	77.97	84	72	80.5	77.	16.70
August	75.51	81.25	83.03	80.80	79.27	74.29	78.71	85	73	81.5	77.5	9.50
September	76.10	80.73	82.26	80.63	79.18	73.69	77.31	85	71	81.	77.	3.95
October	74.87	78.45	79.16	78.51	77.01	72.09	74.51	82	68	80.	71.	4.05
November	72.73	74.10	75.65	75.31	74.19	67.26	68.93	82	64	78.5	65.5	0.54
December	66.71	67.97	68.61	68.45	67.67	52.35	52.03	75	58	74.	62.	0.50

The foregoing table is but an approximation to correctness, for the assistant to whom the Meteorological Register was committed was not particular about entries, and many blanks occur in the tables. Humboldt and Malte-Brun have, however, given the results of extended observations.

Tableau des Bandes Isothermes (Thermom. Centigrade).—MALTE-BRUN.

Bandes' isoth. audessus de 25°.	NOUES DE LIEUX.	Latitude.	Longitude.	Hauteur entoises.	Temp. moyenne l'annee.	Temp. moyenne de l'hiver.	Temp. moyenne du printemps.	Temp. moyenne de l'été.	Temp. moyenne de automne.	Maximum.	Minimum.
	La Kaire	30.02	28.586	0	22.4	14.7	23.1	29.5	21.9	29.9	13.4
	La Vera Cruz	19.11	98.210	0	25.4	22.2	25.5	27.5	29.5	27.7	21.7
	La Havane	23.10	84.330	0	25.6	21.8	26.1	28.5	26.1	28.8	21.1
	Cumana	10.27	67.350	0	27.7	26.8	28.7	27.8	26.8	29.1	26.2

Température Moyenne de Vera Cruz (Thermom. Centigrade).—HUMBOLDT.

	Pas de vomito prieto.		Epidémies du vomito prieto.	
Mois.	1792.	1793.	1794.	1795.
Janvier . . .	21.5	20.8	20.6	20.7
Février . . .	21.5	22.3	22.8	21.0
Mars . . .	23.7	22.8	22.6	22.5
Avril . . .	24.2	26.1	25.3	24.0
Mai . . .	27.3	27.9	25.3	26.3
Juin . . .	28.5	27.3	27.5	27.2
Juillet . . .	27.5	26.9	27.8	27.7
Août . . .	28.3	28.1	28.3	27.8
Septemb. . .	27.5	28.1	27.1	26.1
Octobre . . .	26.3	25.5	26.1	25.0
Novembre . .	24.7	24.4	23.0	24.3
Decembre . .	21.9	22.1	21.7	21.9
Température moyenne de l'année . .	25.2	25.2	24.8	24.5

"Côtes orientales de la Nouvelle-Espagne, température moyenne de l'année 25° 4′. Vera Cruz, lat. 19° 11′, le jour communément dans la saison la plus chaude 27° à 30°; la nuit 25°, 7—28°; dans la saison froide le jour 19° à 24°; de nuit 18°—22°. Plus grande chaleur de toute l'année 36°, la moindre chaleur 16°. La température moyenne du mois de Décembre diffère de celle du mois d'août de 5°, 6°."—HUMBOLDT.

It is Humboldt's opinion that the heat and humidity of the atmosphere favour the production of miasms, and augment the organic irritability, thus acting as predisposing causes of disease.—*New Spain*, vol. iv. p. 216.

Clavigero says:—

"Las costas son muy calientes, y por lo comun, humedas y malsanas. Este ardor exesivo, que promueve el sudor aun en los meses del invierno, proviene de la suma depresion de las costas con respecto a las tierras interiores, y de las grandes masas de arena que se reunen en la playa, como sucede en Vera Cruz, mi patria." * * * "Algunas tierras, como las immediatas a las costas, son calidas, y por lo comun, humedas, y malsanas; otras, como casi todas las interiores, son templadas, secas, y sanas."—*Traducida del Italiano*, por Jose Joaquin de Mora.

Brantz Mayer gives a table showing the quantity of rain which fell in a series of years. Reduced to inches.

Year.	Inches.	Year.	Inches.
1822	157.5	1827	254.8
1823	188.9	1828	146.0
1824	128.1	1829	278.3
1825	127.1	1830	216.0
1826[1]	64.4		

"The amount of water which has fallen in each year very far exceeds the quantity known to fall annually in any part of the United States. It is not, however, difficult to account for the difference. Vera Cruz, situated at the bottom of the Gulf of Mexico, backed by a lofty range of mountains rising beyond the limits of perpetual congelation, must necessarily be the recipient of the immense body of water held in solution by the hot intertropical air, and which is constantly carried along by the trade winds, to be condensed against the cold mountains."

The City of Mexico is distant from Vera Cruz only about 250 miles, in a direct line; Humboldt says 69 leagues, which is nearly the same, allowing for the difference in measurement, and is 7,470 feet above the level of the sea—an elevation of nearly 30 feet (29.88) to the mile; Puebla de los Angelos is 7,198 feet above the sea; Perote, 7,723; and Jalapa, only 50 miles from Vera Cruz, is 4,330 feet above it, or an elevation of 86.6 feet for each mile. High above these cities are the mountains. Popocatepetl, 17,720 feet above the sea; the Cofre de Perote, 13,415 feet; and nearer still to Vera Cruz is the famed Orizaba, 17,374 feet above the sea, only 346 feet less in height than Popocatepetl itself, the second mountain in all Mexico, Iztaccihuatl being only 15,702 feet high. Orizaba, the ancient Citlaltepetl, crowned with eternal snows, always visible from Vera Cruz in a clear atmosphere, was seen by the bold Spanish navigators in 1518, as described by Bernal Diaz:

[1] This year was remarkably dry; and was, moreover, characterized by universally severe weather upon the coast, and a great destruction of shipping property.

"E'luego se pareciéron las grandes sierras nevadas, que en todo el año estan cargadas de nieve." This brief survey may account for the heavy annual rains in Vera Cruz and on the coast.

The *northers* give another peculiarity to the climate. They are common from October to March or April, and they have been known to blow so strongly and steadily as to interrupt all communication between the town of Vera Cruz and the Castle of San Juan de Ulua for fifteen days together. The inhabitants look upon these severe storms much in the same light as the residents of New Orleans and other southern cities of the United States regard a severe frost—that they purify the atmosphere and check the progress of yellow fever.

Diseases.—The principal ones in Vera Cruz, and on the whole coast of the *tierra caliente,* are diarrhœa and dysentery, and tropical fevers, particularly yellow fever, or *vomito prieto.* Yellow fever is the frightful disease of this climate and of this town. Vera Cruz is on the route to the City of Mexico, foreign travellers pass through it on their way to a more temperate climate; they talk about it and write about it, and hence its celebrity; but it is very much to be doubted if yellow fever is so severe as in Tampico and other towns near the coast; and it is believed that Vera Cruz is quite as salubrious as New Orleans. But yellow fever is severe enough in Vera Cruz, in all conscience.

Many years ago, even before the Spaniards invaded Mexico, a malignant disease or fever prevailed, termed by the ancient inhabitants *matlazahuatl.*

"Long-temps avant l'arrivée de Cortéz, il a régné presque periodiquement à la Nouvelle-Espagne un mal épidémique que les naturels appellent *matlazahuatl,* et que quelques auteurs ont confondu avec le vomito ou la fièvre jaune." —Humboldt.

Both Clavigero and Humboldt are of the opinion that the epidemic in question was not yellow fever, for the following reasons:—

1. The epidemic, *matlazahuatl,* attacks exclusively the native or ancient Indian race.

2. The European races and their descendants were not attacked by this fatal epidemic (*typhus mortel*).

3. Yellow fever attacks strangers, Europeans, and their descendants.

4. Yellow fever rarely attacks the ancient Indian race.

5. The principal seat of yellow fever is in the maritime region, directly on the coast in the *tierra caliente,* where the climate is excessively hot and humid.

6. The *matlazahuatl* prevails in the interior, on the central plateau, in excessively cold and dry regions, more than 1000 feet above the sea, and high above the *tierra caliente.*

Humboldt is of opinion that the *matlazahuatl* extended to New England, carrying off nineteen-twentieths of the aborigines in 1614, thus making way for the Puritan colonies.

It is not known at what time yellow fever first appeared at Vera Cruz, or even on the continent of America. Antonio de Ulloa gives the following account:—

"No se havia conocido en Cartagena, y su costa el vomito prieto hasta los años de 1729 y 1730: en el primero disminuyò en mucha parte las Tripulaciones de los Navios de Guerra, que Comandaba Don Domingo Justiniani, y estaban alli de Guarda-Costas; las quales experimentaron este Accidente en Santa Marta: siendo terror de los que quedaron vivos el estrago, que havia hecho en los muchos, que murieron." (The black vomit was not known in Carthagena, or on the coast, until the years 1729 and 1730. The first time, it thinned the crews of the ships of war, under Don Domingo Justiniani, which were there for the protection of the revenue. They encountered this affliction at Santa Martha, and it remained the terror of those who survived the mortality.)—Ulloa, tom. i. lib. i. cap. 5.

Speaking of the diseases of Guayaquil, Ulloa says:—

"Ademàs de esta enfermadad, que es la mas comun, se ha experimentado tambien la del *vomito prieto* desde el año de 1740, en que haviendo llegado la armada de galeones del *sùr* retirandose de *Panamà* por causa de la guerra para assegurar el Tesoro en las Provincias de la Sierra, se padeciò la primera vez esta epidemia, y muriò much agente; assi de la que llevaba la misma armada, como de la forastera, que se hallaba alli, y algunos patricios aunque muy pecos. La ocasion, y circumstancias de este accidente ha hecho creer, que lo introduxeron los mismos de la armada hallandose infestados de èl, desde *Panamà*, y juntamente inferir, que se contrae de unos à otros: pues el clima, que hasta entonces no lo havia causado en tantos forasteros, como por èl trafican, no se lo huviera participado entonces, si los hálitos de los yà picados no huviessen introducido la malignidad" (Besides this disease [intermittent], which is the most common, that of the *black vomit* has been known since 1740, in which year arrived the fleet of galleons from the south, retiring from Panama, in consequence of the war, in order to protect the treasure in the provinces of the Sierra, when this epidemic afflicted for the first time, and many persons died, as well of those who were in that fleet as of strangers who chanced to be present, and some natives, although of them very few. The occasion and the circumstances attending this affliction have caused the belief, that it was introduced by the people of the fleet, who had found themselves infected with it from the time they left Panama; and the inference was, also, that it is to be contracted one of another; since the climate, which, until that time, had not produced it among the many strangers who traffic thither, could not have given it them, if the clothes of those already stricken had not introduced the disease.)—Tom. i. lib. iv. cap vi.

Brantz Mayer remarks:—

"It is said that, in the early period of this country, Vera Cruz was not so sickly as of late years; and that, although there were occasional attacks of violent fever, it was not until 1699 that the *black vomit* made its appearance. In that year an English vessel arrived with a cargo of slaves, and with them came this fatal disease."

Clavigero affirms that yellow fever is of recent origin, and that it did not appear much before 1729. He says:—

"El *vomito prieto*, o *negro*, que tambien parece enfermedad endemica, es bastante moderno, y solo se padece en algunos puertos de la zona torrida, frecuentados por los Europeos. Los primeros que lo esperimentaron fueron unos marineros de buques Europeos, que despues de los malos alimentos de la navegacion, comian en aquellos puertos con exeso las frutas del pais, y bebian aguardiente. D. Antonio Ulloa asegura que en Cartagena, uno de los puntos mas insalubres de America, no se conocio el vomito antes del año de 1729, y

empezó en la marineria Europea de la escuadra que aportó alli, mandada por D. Domingo Justiniani."

I am indebted to Buckingham Smith, Esq., late Secretary of Legation to the Republic of Mexico, for the following interesting history of the disease, in the Spanish language, by Don Manuel de Viya, one of the oldest and most respected citizens of the republic, who has long resided at Vera Cruz. The translation is what follows:—

"The disease called yellow fever (*fiebre amarilla*), known in America by the name of *vomito prieto*, dates its appearance at Vera Cruz from the latter end of June, 1794, at which time arrived Don Miguel de la Grua Talamanca, Marquis of Branciforte, in the ship of war Europa, of 74 guns, commanded by Captain Don Jose Valdes. The ship had sailed from Carthagena, in the Mediterranean, where there had just arrived another ship, El Miño, just returned from Constantinople, where she had been on the duty of taking out an ambassador, or *chargé d'affaires*. Although at the time of the arrival the pest was known to be in Turkey, no precaution was taken to put the Miño in quarantine, so that it infected the bay in which was the Europa, which, in a few days, went to Cadiz to receive the viceroy on board; and, although the disease did not show itself during the voyage, on her reaching Vera Cruz it fully appeared in the hot weather, the captain, Valdes, being one of the first victims of it, with several officers and many of the crew. As the disease had never been known in Vera Cruz until this time, the physicians and population, who until then had not seen or heard of it, were terrified at its character and its ravages. They called it the *vomito prieto*, because of the colour of the corrupted blood which the sick threw up from the stomach. At that time there happened to be at Vera Cruz, passing through, one Don Xavier de Balmis, who had been sent by the Court of Madrid to spread the vaccine matter in certain places in the Americas and in the Philippine Islands, who, giving himself the full importance of a physician, was not above a charlatan; and who, with an air of assurance, wished to have it believed that in his visit to Asia he had had an opportunity of making himself acquainted with the disease, and that he knew how to treat it; but what he accomplished was only to kill some persons for whom he was called to prescribe. In one house were the captain and the purser of the ship with severe fever; Balmis said that the former would recover and that the latter would die. The doctors all thought otherwise, and so it turned out, for the purser escaped with his life, and the captain died. The captain's death was universally regretted, for he was highly esteemed as an officer in the Spanish navy, and was also of a distinguished family."

"It may be mentioned that in 1795 the fever went to Havana and other places, where it has since become endemic. With surprise, it was remarked when it came here for the first time, in 1794, and it was the same afterwards, that it did not attack the natives of Spain, or of America, who were acclimated. The merchants who had lived some time in Vera Cruz escaped, as also in Cadiz, when the disease appeared there. The natives of Vera Cruz never have it, even after an absence of years, and no instance is known of their being attacked by the dreadful disease while at other places."

The foregoing narrative of Don Manuel de Viya is probably incorrect in some particulars: 1. In regard to yellow fever being brought from Turkey by the Miñon. 2. In regard to the Europa. It is not probable that the contagion was received from the Miñon in the bay of Carthagena, Spain; and that it remained dormant so long as to enable her (the Europa) to make a voyage to Cadiz, receive the viceroy, and land him at Vera Cruz before the disease would show itself. 3. In regard to the yellow fever being seen

for the first time at Vera Cruz in 1794. An aggravation of the disease probably occurred in that year, the yellow fever being also very severe in many portions of the United States at the same period of time; and for many years previous it may not have been seen to any great extent at Vera Cruz, thus creating the impression that the disease was first seen when it broke out with such violence in the epidemic of 1794.

It is an interesting fact that the malignant yellow fever of 1794 was not taken by the natives, nor even by acclimated foreigners. Neither have such persons taken the disease in subsequent epidemics. The fact is worth noting when we come to the question of contagion.

The opinion of Humboldt is probably correct, that the same physical causes must have produced similar results, as at the present day; and that yellow fever must have been known as soon as the coast became settled by Europeans, who at first proceeded rapidly to the higher regions of the interior.

According to Humboldt, the extreme limit of yellow fever between Vera Cruz and Mexico City is at Encero, 928 metres, or nearly 3,045 feet above the level of the sea, where the oak grows. But little of the disease, however, is seen above the National Bridge, if ever above that point.

Identity of the Yellow Fever of Vera Cruz with that of the United States.—Humboldt, from the descriptions of Makittrick, Rush, Valentin, and Luzuriaga, is of opinion that the yellow fevers of Vera Cruz, Carthagena, Havana, and the United States, are identical.

"Il est certain que le *vomito* qui est endémique à Vera Cruz, à Carthagène des Indes et à la Havane, est la même maladie que la fièvre jaune qui, depuis l'année 1793, n'a pas cessé d' accabler les habitans des Etats-Unis."

Humboldt's opinion is undoubtedly correct, for the yellow fever of Vera Cruz is certainly the very same disease as the yellow fever of Florida, Mississippi, Louisiana, and Sullivan's Island, near Charleston, S. C.

Contagion.—If yellow fever in the United States be the same disease as the *vomito prieto* at Vera Cruz, of which there is no doubt, then it will follow, that if one is contagious so is the other, *et vice versa*. Humboldt asserts, roundly: "Il est incontestable que le *vomito* n'est pas contagieux à Vera Cruz." Again: "Sur le continent de l'Amérique équinoxiale, la fièvre jaune n'est pas plus contagieuse que ne le sont les fièvres intermittentes en Europe." He quotes Makittrick, Walker, Rush, Valentin, Miller, Wistar, Blane, Cathral, "*et d'autres médecins distingués,*" who have practised in the Antilles and in the United States, to prove that the disease is not contagious in either of those countries. But he thinks that the yellow fever is contagious in other countries:—

"Enfin, en avançant au nord-est, en Espagne, nous trouvons la fièvre jaune indubitablement contagieuse, comme le prouvent les exemples des personnes qui s'en sont préservées par l'isolement quoiqu' elles fussent au milieu du foyer du mal."

In relation to the contagiousness of yellow fever in the United States and Vera Cruz, I have no hesitation in giving a decided opinion; which is, that it is not contagious. It is desirable to be understood; and I mean to affirm, in the most positive language, that the yellow fever of the United States and the *vomito prieto* of Vera Cruz are one and the same disease; and that there is not the shadow of a reason for believing that it is contagious—always allowing an ample margin for difference of opinion, the contagionist and the non-contagionist having an equal right "to worship according to the dictates of his own conscience." The yellow fevers of St. Augustine, Florida, 1841; Pascagoula, Miss., 1848; Charleston, S. C., 1849 and 1852; and Sullivan's Island, near Charleston, 1852; were not imported, but were indubitably of domestic origin—they originated in the places mentioned, and the evidence in support of the assertion may be given hereafter.

Of the fevers of Spain I know nothing. I know nothing of the Andalusian fevers, Gibraltar fever, the fevers of Barcelona, Cadiz, Malaga, Seville, or Xeres; I know nothing of the Havana, St. Domingo, Barbadoes,[1] or Jamaica fevers; nor do I know more of the African typhus, Bulam fever, jungle fever, Bengal fever, mal de Siam, Ascension fever, Boà Vista fever, or other Eastern fevers, never having seen them. It may be that the Eastern fevers are not yellow fever; that they are all sorts of malignant fever, as remittent, congestive, typhus, &c.; and that Humboldt placed too much confidence in a celebrated commission; but of all this I know nothing. One thing, however, I must be allowed to judge of somewhat, the nature of yellow fevers in the United States and at Vera Cruz, having seen them. Seeing is believing.

It is amusing to read Humboldt on one point: "La Havane, Vera Cruz, et les ports des Etats-Unis, s'accusent mutuellement de recevoir l'un de l'autre le germe de la contagion." This is human nature the world over, for our neighbour's farm or plantation is always more insalubrious than our own; and it is well that it should be so, for the conviction conduces to happiness.

"There is nothing more difficult to define, according to the common use of the term, than a good climate. It means a place where the well are robust and hardy, or where few violent diseases are known, or where the yellow fever does not rage, or where not more than half the people have the fever and ague; in fine, almost any place that has any resources, and where lands or lots will sell in market. For, however people may express themselves as to the salubrity of places in their vicinity, they never acknowledge their *own place* to be unhealthy as long as anybody has life enough left to deny it. Let any one deny this who has travelled through our country, if he can. Let him refresh his recol-

[1] One hundred years ago, Hillary says, in his work on the *Diseases of Barbadoes*: "I never could observe any one instance where I could say that one person was infected by, or received this fever from, another person who had it; neither have I even seen two people sick in this fever in the same house at or near the same time, unless they were brought into the same house when they had the fever upon them before they came. From whence we may conclude, that it has nothing of a contagious or pestilential nature in it; and that it is a very different fever in all respects, as it will more fully appear hereafter." P. 107. From this passage it appears that Hillary was not a contagionist, and his testimony is valuable.

lection as to the number of places that have been resolutely pronounced healthy by *one* half, while the *other* half of their inhabitants were sick. St. Louis has been declared healthier than Boston, Cincinnati than Albany, and, to cap the climax of falsehood, New Orleans has been claimed to be healthier than *any* northern city."

Causes of Yellow Fever.—Malte-Brun says: "L'humidité des côtes occasionne des maladies dangereuses aux quelles sont exposés les Européens non acclimatés." Humboldt gives the following causes of the disease at Vera Cruz: 1. Crowding of the population. 2. Bad ventilation. 3. High temperature. 4. Humidity. 5. Putrid emanations, or miasmata. To produce the perfect development of yellow fever, the following conditions seem to be necessary, viz.: 1. The place must be in a low latitude, almost always below 35°. 2. A low country. 3. On or near the sea. 4. Long-continued heat. 5. A high dew-point. 6. Humidity. 7. Dense population. 8. Animal and vegetable decomposition. In view of these causes, is it necessary to call in the aid of contagion? May we not ask, with Humboldt: "N'est-il pas plus facile d'admettre que l'atmosphère de Vera Cruz contient des émanations putrides qui, respirées pendant le plus court espace de temps, portent le désordre dans les fonctions vitales?"

Diagnosis.—This is most important to the patient first attacked, and it is of the greatest importance to him at the very first visit of the physician, for on this his life may depend. After the second or third stage has begun, of what use is it to the sick person for the physician to find out, for the first time, that the disease is yellow fever? The case may stand as a beacon, but the patient is launched into eternity. What are the diagnostics? the pathognomonic symptoms? For on them the salvation of the first patients in an epidemic may depend. Louis gives the symptoms at the commencement of the disease, thus:—

"Headache; a pricking sensation in the eyes, which become almost immediately red and suffused; pains in the limbs, and more or less marked febrile symptoms. These symptoms continue. To them are joined pains in the epigastrium; nausea; spontaneous vomitings some twelve or fifteen hours afterwards, rarely earlier, and sometimes even later. Anxiety and restlessness are mentioned in the first stage, and then M. Louis goes on to the third and fourth days, when the diagnosis is, unfortunately for the patient, but too easy."—*Translation of M. Louis*, by Dr. Shattuck, p. 287.

Headache is common in fevers, but if M. Louis regards the intense pain in the frontal and orbitar regions, so common and diagnostic of yellow fever, then we have two marked pathognomonic symptoms, including the "pricking sensation in the eyes, which become almost immediately red and suffused." Pains of the limbs are common in all southern fevers; pains in the epigastrium are not uncommon in all fevers, and they are not always present in yellow fever; "nausea and spontaneous vomiting" are present, or not, according to circumstances. Then, according to M. Louis, the only diagnostics are, in the early stage, intense supraorbital pains, and redness and suffusion of the eyes.

Having been at the pains to look over several authors on yellow fever, I can find no other pathognomonic symptoms, among a host of symptoms common to all fevers.[1]

Therefore, below 35° N. latitude, in a low country near the sea, in long-continued heat, a high dew-point, humidity, with other apparent causes of fever, whenever a physician is called to a patient early in the disease, the earlier the better, with these pathognomonic symptoms—severe pain in the frontal and orbitar regions, pain and tenderness on slight pressure of the globe of the eye, and redness and suffusion of the eyes, he must be on the alert, and it is well for him to regard the very first case as yellow fever. If, at the same time, there is a dusky hue of the skin, much the most common in persons with dark complexion, he may be certain that he has no ordinary fever to contend with, and he may as well name the disease *yellow fever* without delay. Never wait until a second visit, for by the time that is made the fate of the patient may be hopeless.

Vera Cruz in 1847.—Immediately after the surrender of the city, preparations were made for establishing a general hospital in the old Franciscan convent, San Francisco, near the gate leading to the mole, consisting of a very large church, a smaller church, or chapel, and numerous suites of upper rooms around the convent plaza—a convenient pile of buildings, facing the sea, well ventilated, with good water. Bullock speaks of this water, in 1823, as the best in the city. To organize this hospital was no small undertaking. There was not a single steward except invalid and incompetent ones; an invalid ward-master; the employed physicians were almost universally incompetent; no well men were left for cooks and nurses when the army marched into the *tierra templada;* there was not a single kitchen, table, bench, bunk, privy (with scores of dysenteric patients), chamber utensils; in a word, there was nothing but the miserable sick; and, under these circumstances, the machine had to be put in motion. *Hic labor hoc opus fuit.* But this discouraging state of things was gradually removed, as the following extracts from my Notes will show:—

"*April 7th*, 1847. Took charge of the general hospital this morning; Gen. Twiggs's division to march this afternoon, and his sick are coming in rapidly. Bales of blankets were opened and distributed among them, and some boiled rice for food.

"*9th*. All the sick of Gen. Patterson's division received, principally dysenteric patients.

"*11th*. Troops leaving and sick arriving.

"*12th*. Hospital filled with sick. Hot weather from the first of the month.

"*13th*. Gen. Worth's division marched, and the whole of his sick had to be provided for.

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[1] Hillary gives some of the symptoms when the patient is first seized, which he says are soon "attended with acute darting pains in the head and back; a flushing in the face, with an inflamed redness and a burning heat in the eyes; great anxiety and oppression about the præcordia: these and the burning heat and pain in the eyes are the pathognomonic symptoms of this fever especially, &c." Hillary's description applies to such cases as could scarcely admit of doubt.—*Diseases of Barbadoes*, p. 108.

"15*th*. Hospital getting in better condition.

"17*th*. The sick of Gen. Quitman's division were brought in this afternoon; and it was found necessary to take possession of the Mexican Military Hospital, San Carlos, except the small portion occupied by a few wounded Mexicans.

"This hospital continued in our hands as a branch of the main hospital.

"18*th*. Hospital getting in better order."

From this date, more or less sick were admitted daily.

Yellow Fever of 1847.—This did not break out so soon as might have been expected, considering the hot weather, the filth accumulated during the siege, and the dissipation of our troops after the surrender of the city.

"*May* 4*th*. For two or three days severe congestive fever has been common among labourers in the quartermaster's department—Irishmen, and very dissipated. From the first of the month malignant fever may be said to have commenced. These cases were generally very severe and rapidly fatal. Cold limbs, profuse cold sweat, feeble pulse, stertorous respiration, vibices, &c., were quite common, even on their entrance into hospital. These hired labourers were exposed to the sun and rain; they had more money to spend, and were less under restraint and discipline than the soldier; were very dissipated; and did not report sick under two, three, or four days after the attack, while the sick soldiers reported immediately.

"7*th*. Very warm weather. To-day a soldier died of the *vomito*. He was a volunteer, and very sick when he came to the hospital; had been wandering about the country; might have been a deserter, and might not, as no account could be given of him, and he was moribund when admitted. This was the first case of real yellow fever, and from this time it soon became prevalent."

Treatment of the Vera Cruz Yellow Fever in 1847.—In my report to the Surgeon-General for the quarter ending 30th of June, are the following remarks: "In the treatment of yellow fever, I regard quinia as the sheet-anchor, and am abundantly satisfied with its effects in the yellow fever of Vera Cruz. When the yellow fever first broke out, in May, it was with violence, and I was in the habit of combining the sulphate of quinia and calomel in several of the first doses, at the same time employing free cupping, leeches, in many cases general bleeding, sinapisms, mustard pediluvia, &c. I found that many of my patients were more susceptible to the mercurial influence than had been anticipated; and, in consequence, some of them had severe ptyalism. All those who had ptyalism recovered, though attacked ever so severely; not one died. This was satisfactory, notwithstanding the disagreeable attending circumstances."

"During a part of May and June, general bleeding was resorted to in almost every case, there being strong arterial action, severe pain of the frontal region and eyes, &c. It answered a most excellent purpose. Then came a dose of calomel and quinia, &c. &c."

The above is an outline of the general treatment, but it may be advisable to enter into particulars.

It was a standing rule in the Vera Cruz General Hospital that, when a patient was brought in with yellow fever, the warm mustard bath, or pediluvium, was to be used without delay, even before a medical officer could

visit him; and if there was coldness, chilliness, gastric irritation, &c., the patient was enveloped in sinapisms—to the epigastrium, cervical and lumbar spine, wrists and arms, legs and feet, &c. Immediately after, if the stomach were quiet, ten or fifteen grs. cal., and fifteen or twenty grs. of sulph. quinia; then cups were freely applied to the ligamentum nuchæ, lumbar region, epigastrium, and perhaps to the whole length of the spine. But if the stomach were irritable, previous to giving the quinia and calomel, and after the application of sinapisms, free cupping to the epigastrium, &c., was employed, and enemata of chlorid. sodium and water were used. If the stomach was not particularly irritable, in two hours after the first dose of calomel and quinia, a large dose of ol. ricini, or of ol. olivar. was given, followed at the proper time by a cathartic enema, so as to produce free evacuations as soon as possible. If the stomach was irritable, the oil was not given, but the enemata were repeated *pro re nata*—say every hour or two for a time—and of these none were more useful than the simple one of common table salt and water, assisting the medicine, and allaying gastric irritability beyond any enema I have ever employed. Whether the stomach were irritable or not, in three or four hours after the first dose of calomel and quinia, another was given, say five or ten grs. calomel, and ten or fifteen grs. quinia, according to the state of the case; and similar doses were given every four hours until free evacuations were procured, when the calomel was omitted, or continued, at discretion. Sometimes the calomel was continued in combination with quinia, in such doses as were deemed advisable, even to the second or third day, but not generally. Much depended upon circumstances. On account of the perturbing treatment of the first day, as well as the nervous irritation, restlessness, and anxiety of mind, always more or less on the first day, diminishing as the disease advances, one-quarter to one-half grain sulphate of morphia was generally added to the calomel and quinia at about the hour of tattoo, *hora somni*, or about nine o'clock P. M.; and it was not uncommon to give a dose of morphia at night until convalescence was established. It was not very uncommon to give morphia, quinia, and calomel together during the first day. This course, modified to suit the different cases, constituted the main treatment for the first part, or stage, of the disease.

The effect of the above remedies is easily seen. The baths and sinapisms equalize temperature and the circulation, and subdue gastric irritation. Cupping has the same effect in a powerful manner, and all have an action on the nervous system. It is also seen that importance is attached to the early and free evacuation of the bowels, and it was always the intention to procure five or six passages in as short a time as practicable after the first visit; for a decided action of this kind not only subdues the present irritation of the stomach, but (I am inclined to think) prevents nausea, retching, and vomiting at a later stage of the disease, when black vomit is so apt to supervene. For this object, calomel and oil are the best, the first being easily retained by the stomach, and the last (if retained) effectual.

The combination of calomel and quinia, besides being the surest and best cathartic, has a wide influence on the whole system. It acts upon the skin, the liver, the kidneys, the nervous system, and probably upon the blood. Many articles of the materia medica are enhanced in value and rendered more efficacious by combination; and this is especially true of calomel and quinia in most southern fevers, and in none more than in that scourge, yellow fever. General bleeding is not often necessary in yellow fever, unless there is a bounding pulse, great heat, &c., for the quinia lowers the pulse, diminishes the heat of skin, and brings the system to somewhat of a healthy standard in a surprisingly short period of time; and then the mercurial action takes effect, the chylopoietic viscera having been already thoroughly acted upon. The system is now in a condition to *respond* to the mercurial, being lowered to near the healthy standard; and I well remember to have read an interesting paper on the subject by Dr. Ansel W. Ives, of New York, published many years ago, which inculcates that the mercurial influence cannot be induced unless the system is in a condition somewhat analogous to health; that if the circulation, &c., be above the healthy standard, lowering measures are necessary; whereas, on the other hand, if the system be much below the standard of health, supporting measures are indicated. Farthermore, the mercurial influence (downright ptyalism is not meant in all cases) prevents relapse, or secondary fever, so common in the more advanced stages of the disease, which is exceedingly dangerous. A recent writer on yellow fever, an American physician, name not recollected, admits that quinia will surely break up the first stage of the fever, but he says that relapses are frequent. Hence, in my opinion, the value of calomel with quinia; the combination prevents the secondary fever. It is essential that the treatment should commence early, within two, three, four, or five hours from the attack; the earlier the better. This mode of treatment, or a similar one, is termed, in New Orleans, the "abortive method."

Why should we commence this treatment early? For the best of reasons, *disorganization has not begun.* Dr. Fenner, of New Orleans, says:—

> "In the early stage of yellow fever the derangement of the system is *entirely functional*, and consists chiefly in *lesion of innervation.* In the advanced stages it is altogether a different affair—*organic lesions have then taken place, and the blood is altered.*"

Hence the necessity for early treatment, for the delay of a very few hours may lose the patient.

Many contend that mercurials act perniciously in yellow fever, by dissolving the fibrin of the blood. But the uninterrupted progress of the disease, for only a few hours, appears to me to have more effect in producing dissolution of the blood than any rational remedy could possibly have. We have a tremendous disease to deal with; and desperate diseases require vigorous remedies; in the language of the well-known aphorism—*Ad extremos morbos, extrema remedia exquisite optima.* I have never known a case of yellow

fever prove fatal after ptyalism, whether produced accidentally or intentionally. The ptyalism might have been very unpleasant, sometimes even causing one to regret that the remedy had been carried so far; but, after all, I have never known one of these cases to terminate fatally; a result which could scarcely be expected if mercury has such a powerful effect in producing a dissolved condition of the blood in yellow fever as has been represented. It will be recollected that Dr. Chisholm used the following impressive language:—

"Let it never be forgotten, that at whatever period of the disease salivation is excited, whether the supposed signs of putrefaction have appeared or not, the accession of it is the certain signal of cessation of disease, and of returning health."

It is to be distinctly understood that I am no advocate of ptyalism, or the profuse administration of mercurials as practised in many parts of our country. But in so serious a disease as yellow fever, no particular pains is taken to avoid, or produce, salivation; the intention being to administer the remedy judiciously and efficiently so as to control the fever and procure free evacuations in the first stage. It appears to me that mercurials are powerful auxiliaries in the first stage of yellow fever; and it may appear that some of our physicians have discarded a valuable remedy on account of an imaginary evil.

A few other remedies may be noticed. As a general thing, venesection is not practised by the profession, unless in particular epidemics, or in particular cases. Much depends upon climate, season, constitution, &c. As a general rule, venesection is not proper; but when the constitution is robust, skin hot, pulse full, or bounding, and there is intense pain of the head, one free bleeding may be of great service, especially when immediately followed by a full dose of calomel and quinia, cups, sinapisms, &c., as before enumerated. General bleeding was never repeated at Vera Cruz. In May and June, 1847, weather hot and dry, the patients recently from the north, and robust, with hot skin, full pulse, and severe pains of the head and spine, one free venesection was found beneficial.

In the month of June, a quartermaster's clerk, of good constitution and habits, came to the hospital at nearly ten o'clock P. M., just as I was about leaving for the night, and told me that if he were not immediately relieved he should die, or become "crazy" before morning, and my own opinion coincided with his. He had been ill but a few hours: bounding pulse; hot and dry skin; eyes brilliant, suffused, and extremely tender on slight pressure; intense pain in the frontal and orbitar regions; in fact, the case more resembled a sudden attack of phrenitis than any other disease. An arm was corded and a vein opened at once, but the blood did not flow to suit me; the other arm was, therefore, bound up, and a large incision made into the vein, from which the blood flowed *pleno rivo*, and the patient was soon bled *ad deliquium animi*. As soon as he was somewhat recovered from the syncope, twenty grains of

calomel, half grain of sulphate of morphia, and twenty-five grains of sulphate of quinia were given; then leeches were applied to the forehead, and cups to the epigastrium and whole length of the spine; at one o'clock, ten grains of calomel and fifteen grains of quinia were administered; and five grains of calomel and ten of quinia at sunrise next morning. Visited the patient before 8 A. M., found him better; but little fever; pulse soft; slight pain of the head, complains of buzzing, deafness, &c., signs of quininization; skin quite yellow. The medicine had operated freely as a cathartic. A modification of the same plan of treatment was continued through the day, and blisters were applied to the epigastrium and over the cervical spine. The patient was severely salivated; he was put on tonics, chicken broth, beef tea, wine, ale, &c., and was restored to perfect health.

Such, as above detailed, was the character of yellow fever in May and June, though few cases were so violent as this one; and hence the benefit derived from one free bleeding early in the first stage. By the time the fever was rife we had picked up several good men for hospital stewards, most of whom had the disease in May and June. These being our right-hand men, they were taken in charge by myself, and we had the satisfaction of seeing them recover. The attendants were also sick, but generally recovered. The reason of this success is obvious, no time was lost. Our worst and most unfortunate cases were those from the regimental hospitals, some two or three miles from the city.

One evening in May, as I was going the hospital round of duties, a division hospital steward, a Frenchman, begged me to assist him, as he felt very sick. He stated that the physician in charge of his division, an employed French resident, was absent; that he (the doctor) was very good in diarrhœa and dysentery; but that he did not seem to understand the treatment of such awful fevers as were prevalent, for ptisans did not answer, &c. The steward was fresh from the north, had a good constitution, temperate, pulse full, skin dry and hot, intense pain in the usual regions, &c. He was freely bled, and the usual plan pursued; but slight ptyalism was induced; and in a reasonably short period of time he recovered, afterwards doing good service among the sick. He came out of Mexico with our army, in 1848.

About the first of July, the men having become reduced by sickness and the excessive heat in April, May, and June; the rainy season having set in, and the weather become cooler; the fever changed its type, and general bleeding was almost wholly abandoned.

Cathartics have already been sufficiently alluded to; and after the first free evacuations, they were scarcely ever employed. After the first free passages, cathartics and laxatives are generally improper, both on account of the rapid progress of the disease, and the tendency to irritation of the stomach; and to prevent and allay gastric irritation, and keep the bowels open, enemata are much the best. Of these we have a selection, terebinthinate, &c. &c.,

but a solution of common salt in water, was found to answer almost every purpose, and was much the most convenient in the immense hospital.

Diuretics.—Although the action of the kidneys is sadly deranged in yellow fever, this class of remedies is utterly worthless. In certain states of the system, especially in a miasmatic region, quinia is the most efficacious diuretic I have ever known; as in the Florida fevers of 1839, '40, and '41, when a scanty, high-coloured urine was often changed, in the course of one hour after the administration of quinia, into a profuse, pale, watery discharge, the pain in the spinal column being at the same time greatly alleviated, or entirely disappearing. In the miasmatic fevers of the south, quinia is the best diuretic that can be employed.

Diaphoretics.—These, as a class of remedies, are of little use, and the best is the quinia and calomel, with warm blankets. Although spacious apartments and free ventilation are essential, in no disease is it more necessary to guard against currents of air and sudden chills than in yellow fever; and it is better to keep the patient well covered with a blanket, or coverlet, even in summer, than to risk the least exposure. Indeed, patients are commonly quite comfortable under a thick blanket, even in hot weather; and in cold weather, or when the Vera Cruz northers came on, an abundance of bedclothing was necessary. Baths and sinapisms have been mentioned; bottles of hot water, hot bricks, &c., were used as required. The diaphoretic most to be depended upon, however, is calomel and quinia. I have often seen a patient with full pulse, hot and dry skin, and intense pain of the head, after the first decided dose of this combination, and in the course of two or three hours, have a soft pulse, a moist and cool skin, and little or no pain of the head. In this state, the patient must be well covered, and carefully guarded from sudden chills.

Leeches were provided in abundance, and were used freely—applied to the temples, forehead, and epigastrium—but they are not essential; and cups to the cervical and lumbar spine, and to the epigastrium, will answer every purpose for which leeches are employed.

Ice was provided in abundance, and is highly praised; small pieces were often administered with advantage, but iced mucilage, given often and in small quantities at a time, was the best. For the intense pain of the head, I have never found ice of much use, and generally the pain was aggravated by its application; vinegar and water, or spirits and water, with a hot and dry forehead, answered much the best. Calomel and quinia, however, in a short time, do more to relieve the pain of the head and spine than any other remedies; often changing, in an hour or two, the intense pain into a dull aching, buzzing, or deafness, wholly different from the original pain. This change is principally due to the action of the quinia.

From the foregoing statement it appears that quinia is considered a main remedy in the first stage of yellow fever; but care is required that it be not carried too far. Some cases will tolerate the free use of it one day, some two

and even more days; but when the patient is fairly put under the quinia influence, it is best to gradually diminish the quantity; not too rapidly, however; for, if withdrawn suddenly, secondary fever may succeed, which always places the patient's life in jeopardy. We are also called to some cases in the second stage of the disease, in which large doses of quinia cannot be expected to prove beneficial, but must be avoided. There are some cases in which it can be pretty certainly predicted, from the commencement, that quinia will be of little use, as when all the symptoms are grave, with yellowness and cold surface, like very many cases in the malignant epidemic at St. Augustine, Florida, in 1841. These are always dangerous cases, however treated. When the skin is quite yellow on the first visit of the physician in the early stage, quinia is not apt to effect much, and the earlier in the disease the yellowness appears, the more dangerous; for there is reason to fear more or less disorganization, and the blood is changed. Much depends upon the circumstances of the case. Perhaps the best course in such cases is to give at first calomel, oil, and enemata, so as to move the bowels freely as soon as practicable, afterwards using mild means, as small doses of quinia, or quinia and calomel, ptisans, enemata, &c.; and it is to such cases that the French and Spanish (Mexican) treatment seems to be best adapted.

The administration of immense doses of quinia is not advisable, and it is my own opinion that twenty grains is nearly the maximum dose, for it certainly is as large a dose as can generally be given with advantage; and the sixty, eighty, and one hundred grain doses we hear of, if the patient is susceptible to any impression, or the article is a good one, must surely prove injurious, it may be said *poisonous*. Granting that such enormous doses are not poisonous, experience shows that fifteen or twenty grains will effect as much in southern fevers, as forty or sixty grains. In those cases which do not rapidly run to a fatal termination, ten and fifteen grains are as efficacious as larger doses, and are much less apt to produce unpleasant effects. At Vera Cruz, the dose of quinia varied from ten to twenty grains, and I rarely thought of exceeding the last-mentioned quantity. We are speaking of the pure and unadulterated sulphate of quinia, not of that which is "made to sell."

Quinia, then, is considered by many members of the profession a valuable remedy in yellow fever. In the *Transactions of the American Medical Association* for 1848, pp. 79, 80, the following remarks occur:—

"Concerning the treatment of yellow fever, we have not found much that is reliable. The recommendation of quinia, coming from New Orleans, last summer, and Dr. Nott's suggestions of creosote, require confirmation."

Dr. Harrison, of New Orleans, same volume, p. 108, says: "The epidemic did not differ from others, except in this: sulph. quiniæ was more liberally used than formerly, and generally with the best results, according to the information I have been able to obtain from those in whom I have confidence."

The New Orleans physicians are generally in favour of the free employment of quinia in the first stage of yellow fever. My own testimony is decidedly in its favour, having freely used it in large doses in all southern fevers since 1839; and in yellow fever, in 1841, during the epidemic at St. Augustine, Florida; Vera Cruz, in 1847; Pascagoula, Miss., at the large encampment, 1848; and never with more satisfaction than in the recent severe epidemic (1852) on Sullivan's Island, in Charleston Harbour, S. C.

Dr. Stevens says that the French physicians of Martinique commenced giving the sulphate of quinia in yellow fever, with considerable success, as far back as the year 1823.

"The sulphate of quinia, like all the other alkaline salts, reddens the blood out of the body; but it possesses this power in a much inferior degree to the muriate or carbonate of soda, the nitrate, the chlorate, or the carbonate of potass. The sulphate of quinia has been long used, both by myself and others, in the islands of St. Thomas, St. Croix, &c., and we have found it a useful remedy; but we could only trust to it during the convalescence."—Stevens *On the Blood*, p. 394.

The practice in the West Indies with this article was entirely during convalescence, whereas the physicians of the United States employ it freely in the very first stage. Even on the principles of Dr. Stevens, sulphate of quinia is a valuable remedy; but, if useful after the blood has become dissolved, why not commence the treatment early, while the blood is rapidly going into a state of dissolution, not yet, however, in a state of dissolution?

Hillary, one hundred years ago, in his work on the *Diseases in the Island of Barbadoes*, would have rejoiced at the discovery of the sulphate of quinia.

"In these circumstances (the change about the third day) the cortex Peruv. may be thought to be the best, and most likely medicine to succeed: I grant that its well-known efficacy, in preventing or putting a stop to mortification, promises much; but the misfortune is, that this drug is so disagreeable to most palates, and the stomachs of the sick in this disease are so much affected, and so weak, and so subject to reject everything, even the most pleasant and innocent, that they can very rarely take it in any shape, and still much fewer can retain it when they have got it down; so that no stress or dependence can be laid on it; and the only way that I could get a patient to take and retain two doses of the bark in this case, was the extract of it, with a spoonful or two of milk and water, and even thus they could not retain a third dose of it; wherefore, I soon laid aside all future attempts to give it, foreseeing that it would be in vain, and that we should thereby only lose time, not to be recovered, and our patients also, when we might probably save them by another method; and I am told that several others have tried to give the bark in this case, but with no better success."—Pp. 119, 120.

Again, p. 120:—

"The radix serpentaria Virginiana is the next best antiseptic," &c. &c. "Sat easily on the stomach, moderately raised the pulse and fever, which were now sunk too low," &c.

When cupping and sinapisms have done their work, and the transition from excitement to exhaustion is about to commence, or has commenced, epispastics must be freely employed, and they may be used quite early in the disease after sinapisms and free cupping. A large blister to the epigastrium

is almost always necessary, this and the cervical spine being the two most important points; indeed, were it not so very inconvenient to the patient, the whole line of the spine ought to be blistered, and in bad cases it is sometimes essential.

The irritability and irritation of the stomach is the great obstacle to successful treatment, from the beginning to the end of the disease. It is of the utmost importance to quiet the stomach as soon as possible, but the subject has been already alluded to. Even when black vomit has come on, we must not cease our exertions; and two articles have been much praised—ol. terebinth. and creosote. As a general thing, I have not found them of great service in the gastric irritability, and after black vomit has commenced, they are worthless. Indeed, how can they be expected to prove beneficial? for disorganization has taken place, the inner coat of the stomach being, at various points, excoriated, inflamed, softened, and ulcerated. In this condition of the stomach, may not these remedies sometimes prove injurious?

In the second stage, which may commence on the second or third day from the attack, after quinia and its combinations have done their best; pulse soft, frequent, or nearly natural; heat abated; skin soft, nearly natural, or more or less clammy; yellowness, &c.; and when it is uncertain if the black vomit will come on or not, an expectant method of treatment is proper. In this state of things, mucilages, arrowroot, sago, animal jelly, chicken broth, beef-tea, wine, ale, &c., in small quantity, and even brandy when the patient prefers it, may be given; for it is to be recollected that nothing is gained by forcing these things on the patient when they are disagreeable to him. Even after the first twenty-four hours, if the patient can be prevailed upon to take a spoonful of nice chicken broth, or beef-tea, or any other little nourishment he may fancy, every two or three hours, it may be of great importance, for the starvation principle in fevers is now pretty well exploded. Let the patient take what is most agreeable, provided it is not obviously improper.

In this weakened state, preceding and including convalescence, great caution is necessary, and but little medicine is required—as very moderate doses of quinia, small quantities of the infusion of serpentaria Virginiana, enemata, &c.; and, in this stage, the following combination has been found exceedingly useful: Mist. camph. (or julep), mist. ammon. carb., āā ʒj; vel ʒij; which may be given every one, two, or three hours, according to circumstances. There is no doubt about the usefulness of this prescription, and of the virtues of carbonate of ammonia in the later stages of yellow fever, which may be accounted for on general principles; but the carbonate of ammonia may act in the way pointed out by Dr. Stevens, on the blood, being a "non-purgative neutral salt, an alkaline carbonate."—Stevens, pp. 300, 324, 328. Whatever may be the theory, the facts are certain.

Baron Humboldt speaks of several methods of treatment in yellow fever: *les système de Brown; l'usage du quinquina; les saignées recommendées avec tant chaleur par Rush; les préparations mercurielles, surtout le calomel ou*

muriate de mercure doux, associé ou jalap; the ancient treatment *des morceaux de neige;* and, finally, of the Mexican mode of treatment, as follows:—

"On a regardé, pendant quelque temps, à Vera Cruz, les sorbets, le jus d'ananas (*xugo de pina*), et l'infusion du *palo mulato*, vegetal du genre amyris, comme des remèdes spécifiques contre le vomito; mais une longue et triste expérience a décrédité peu-à-peu ces remèdes, même chez le peuple Mexicain."

The Mexican, Spanish, and French method of treating yellow fever in Vera Cruz is entirely with olive oil and lemon-juice, and the infusion and decoction of the *palo mulato*, as stated by Don Manuel de Viya, before quoted:—

"El remedio mas eficaz que se ha conocido por la esperiencia, es el uso del limon y del aceite. Tambièn el palo mulato. Nada de sangrias, que se acostumbran en Jamaica y en las Antillas."

A drink made from the palo mulato is not disagreeable, and I used it pretty freely with my patients. It is mucilaginous, a little astringent, and perhaps slightly tonic. The Mexican and foreign physicians of Vera Cruz relied entirely on olive oil and lemon-juice, and infusion or decoction of palo mulato, but with no great success; for the vomito attacked the Europeans earlier in the season than it did the Americans, and deaths were numerous among them (Europeans) in all parts of the city before we had a case in the general hospital. Indeed, the Mexicans considered us under the special care of Providence during the year. The before-mentioned treatment is universal in Mexico, Havana, and other parts of the world; and, if certain to cure, or to cure as many as any other mode of treatment, it is best to follow it, for it is convenient, and much less troublesome than any other method. I gave the oils and lemon-juice freely, and came to the conclusion that the oil was best without the lemon-juice; but I never dared trust our robust Americans exclusively to this treatment. Why is it that one kind of treatment seems to answer with one people and not with another? It appears to me that Baron Humboldt accounts for the difference in the most satisfactory manner:—

"Les régions équinoxiales de l'Amérique n'étaient visitées que par des Espagnols et des Portugais, deux peuples de l'Europe australe moins exposés, par leur constitution, à sentir les effets funestes d'un climat excessivement chaud, que les Anglais, les Danois, et d'autres habitans de l'Europe boréale qui fréquentent aujourdhui les îles Antilles."

And it certainly seems that a native of Spain, Portugal, France, or Italy may recover from yellow fever under mild treatment, which would by no means answer for a native of Great Britain, Ireland, Denmark, Sweden, or Russia.

Diarrhœa and dysentery were prevalent, ran rapidly into the chronic form, and were very fatal. Brantz Mayer says that diarrhœa, dysentery, and vomito are the most fatal maladies at Vera Cruz. Their consideration will be reserved for the great encampment at Pascagoula, in 1848, when hundreds of these cases were brought from Mexico.

Eruptive Diseases—Rubeola and Variola.—These are always troublesome to the military surgeon with new levies. The Texans had measles severely at Monterey. Variola was brought to Lobos Island, when our army was *en*

route to Vera Cruz, by two transports filled with volunteers, who had to be cut off from intercourse with the rest of the troops; scattering cases of the disease occurred at Vera Cruz in the summer of 1847; and in the first part of 1848 it was necessary to establish a smallpox hospital without the walls of the city.

Variola was introduced into Mexico, according to Humboldt, in the year 1520,[1] and made terrible ravages in 1763 and 1779; the epidemic of 1797 was much less fatal, owing to the general practice of inoculation. Of 6,800 persons inoculated at Valladolid, in the bishopric of Mechoacan, according to Humboldt, only 170 died, being exactly 2.5 per cent. In 1804, vaccination was introduced. Humboldt says that the genuine vaccina is found among the cows of Mexico: "M. Valmis l'a decouvert dans les environs de Valladolid et dans le village d'Atlizco, près de la Puebla, aux pis des vaches Mexicaines." The ships of the Spanish royal navy carried this boon to mankind to all the American and Asiatic colonies; in the beautiful language of Humboldt: "The Indies, for the first time, saw these fleets, with instruments of carnage and death, bear to suffering humanity the germ of relief and consolation." And this blessing is to be taken from us! It will require an immense accumulation of facts, more than the world ever saw, to shake our faith in the protective influence of vaccination.

This disease would scarcely have been noticed, but for the strong Gregorian doctrines which seem to be creeping into notice, so much so as to shake the belief of many in the safety of vaccination; and the occasion permits me to give my humble testimony in favour of vaccination.

A few facts may not be out of place. In the early part of 1842, at Fort Adams, R. I., a mulatto servant of the officers' mess, who had not been vaccinated, caught smallpox while on a visit, of a few days, in Providence, in the same State. There had not been a single case of the disease near the fort, nor in the city of Newport, about three miles distant. This man attended the breakfast-table on the day of the attack, afterwards put our rooms in order, and just before the hour of dinner I was called to visit him. He remained in his room, by the officers, until the eruption appeared, many persons having been exposed in the mean time; and on the appearance of the eruption he was removed into a retired room in one angle of the fort. To the time of the eruption, fifteen or twenty persons must have been exposed to the contagion. On the occurrence of this case, revaccination was immediately resorted to in all persons, but without the slightest effect. No other case occurred. One officer informed me that he had been vaccinated but once, when young, more than forty years before; revaccinated, but without effect. There was in the hospital at this time a soldier who had been injured, but now nearly well; native of some German city, twenty-five to twenty-eight

[1] Bernal Diaz states it was introduced into Mexico by the Spaniards under Narvaez, about the year 1520, or 1521. Y como veniuros en aquel tiempo con cortés, y dende á diez meses vino Narvaez, y truxo un negro lleno de viruelas; el qual las pegó á todos los Indios que habia en un pueblo, que se decia Cempoala, é desde aquel pueblo cundió toda la Nueva—España, é ovo grande pestilencia. P.

years of age, vaccinated when about two years old. It appears that the laws of his city are stringent on this subject, every child having to be officially vaccinated, and then the patient is furnished with a printed certificate of the vaccinating physician, and of the mayor, with the seal of the city attached; so that in this case there could be no doubt of the truth of the man's statement. Would that such laws could be enforced in our own country! I proposed to this man that we should go to the bedside of the patient and be inoculated with the variolous matter, to which proposition he agreed, and I first inoculated myself in both arms, and then the man in both arms. Not the slightest irritation appeared, every puncture healing as readily as the scratch of a pin. I was vaccinated fifteen years before.

In the summer of 1847, a case of smallpox suddenly appeared in the hospital of the quartermaster's men, at Vera Cruz. No new patients were admitted, but every inmate having been already exposed to contagion, it was determined to let everything remain in *statu quo*, and to guard against contingencies. Nearly all of these men (most of them having been soldiers) had been vaccinated; the patient had not been vaccinated. Vaccination and revaccination were immediately resorted to, and several of the men were inoculated from the pustules of the patient, but without effect; for in not a single instance of revaccination, or inoculation, was there the least local irritation. I inoculated myself in both arms; no local irritation whatever. Not a single case of variola, or varioloid, occurred among these men, the only patient being the solitary one first attacked.

In the army of the United States the regulation is positive, and strictly enforced:—

"When a recruit joins a regiment, post, garrison, station, or depôt, the surgeon will forthwith ascertain whether he has had variolous, or vaccine infection, and if he has not, will see that he be vaccinated as soon as practicable; and for this purpose he will constantly keep good matter on hand, making application to the Surgeon-General for a fresh supply as often as may be necessary."—*Regulations for Medical Department*, par. 84.

No army regulation is more strictly observed than this; every recruit is vaccinated as soon as sent to a depôt; on joining his regiment, post, garrison, or station, he is again examined with reference to this very subject. In the whole course of my service in the regular regiments of the army, from the extreme north to the tropics, I have never seen a case of variola, or varioloid, in man, woman, or child; and the only cases of the disease I have ever seen were among irregular troops, and persons over whom we had no control. I have revaccinated scores and hundreds of persons without producing the least effect, not even local irritation. As the question stands, shall we discard vaccination and return to inoculation? To which my reply would be: *By no means.* I can think of but one circumstance which could induce a resort to the practice of inoculation, the misfortune of being on duty with troops when smallpox had broken out, without a supply of good vaccine matter; in which event I would inoculate without scruple, but would very much regret the

necessity. Under the system of prompt vaccination, however, such a thing can hardly occur in our service.

Dr. George Gregory says of variola: "The increase is attributable to the extensive diffusion of vaccination." Again: "Vaccination had failed in establishing in the mind a confident feeling of security; it must be viewed as a beneficent provision of Nature, not for the extermination, but for the mitigation of smallpox." In regard to one point, "establishing in the mind a confident feeling of security," we must dissent from the conclusion of Dr. Gregory. On the contrary, there is a universal "confident feeling of security" in vaccination, from the highest to the lowest; in Great Britain, the Queen and the responsible advisers of the crown; in the United States, from the President to the clodhopper; and this "feeling of security" after vaccination is based on the medical experience of more than half a century, and on the tradition of the masses, tradition being often the best of evidence, for "fathers are not used to lie to their own children." There is a universal confidence in vaccination. In our own little experience, we have often known an Irish mother, pitted and marred with smallpox, lead her child to us, begging, "for the love of God," that it might be vaccinated. The confidence in vaccination is universal, and it will require mountains of facts to diminish it.

Dr. Copland seems to think that "the middle of the nineteenth century finds the majority of the profession in all latitudes and hemispheres doubtful as to the preponderance of advantages, present and prospective, to be obtained either from inoculation or from vaccination." Dr. Gregory says that vaccination is only a mitigation of smallpox. Granted. One hundred years ago, fifty years ago, this "*mitigation*" would have been considered a boon to mankind, all that could have been wished, all that would have been asked. In the present day, would not a *mitigating* agent, as quick and as efficacious in its action as vaccination for smallpox, in cholera, typhus fever, or yellow fever, be regarded as inestimable? Smallpox is so much *mitigated*, to use no stronger expression, as to be divested of its terrors; and I have never seen a case of variola, or varioloid, in any person who has been vaccinated, though they doubtless do occur. As Mr. Grainger says: "It is not the failure, but the neglect of vaccination which is the true cause of the mortality;" and this is especially true of England, Ireland, and the United States. In our own country the universal neglect of vaccination is deplorable. Vaccination ought to be universal; and "great stress is laid on the manner in which the operation is performed; on the importance of fresh and efficient lymph; and on the careful watching of each case—precautions which it is certain are but too often neglected." * * * "Not one need have perished, so far as smallpox was concerned, if only that great remedy, provided as it were by the hand of God himself, had been applied."—*Amer. Med. Journ.* July, 1852, pp. 228–234: *On Inoculation and Vaccination*, By Jesse Young, M. D. *Amer. Journ.* Oct. 1852, p. 381.

Medical Statistics of Vera Cruz.—In relation to the mortality of yellow

fever, Waddy Thompson says: "According to the estimates of those most entitled to confidence, less than five per cent. of those attacked die." This is surely a great mistake. In 1847, the French, Mexican, and Spanish physicians lost many patients, the fever attacking European foreigners earlier in the season than the Americans, and there were many interments before our troops were attacked. Dr. De la Puenta, of Vera Cruz, informed me that he had known fifty per cent., and even seventy-five per cent. of the patients in the Mexican Military Hospital die; and from all the information which could be obtained before fever commenced, I decided in my own mind that if less than fifty per cent. of the yellow fever patients died, it would be as favourable a result as might reasonably be expected. Brantz Mayer gives an interesting paper:—

1841.

Total population	6,500
Whole number of deaths	1,017
Mortality per cent.	15.64

Diseases.	Number of deaths.	Mortality per cent. of the whole population.
Vomito	155	2.38
Fevers[1]	142	2.18
Diarrhœa and phthisis[2]	212	3.26
Dysentery	29	0.44
Variola	142	2.18
All others	337	5.18
	1,017	15.64

Mortality from zymotic diseases, including phthisis, 10.46 per cent. of the whole population.

"Thus, allowing the population of Vera Cruz to be about 6,500 (which I consider quite liberal), you will perceive that one-sixth of the whole died in the course of the year; of this, one-sixth—about an equal proportion—perished from *vomito*. The excess of burials over baptisms is 563. Diarrhœa, dysentery, and vomito are the most fatal maladies. In 1842, I am told, that near 2,000 died of vomito in Vera Cruz. This, however, was owing to the number of raw troops sent there from the interior, to be embarked for Yucatan."

Humboldt gives us the following statistics: Hospital de San Juan de Dios, admitted from 1786 to 1802, 27,922 patients; died, 5,657; mortality per cent. 20.22. In great epidemics, the mortality amounts to 30 or 35 per cent. Hospital Loreto, from 1793 to 1802, 2,820 patients; 389 deaths; a mortality of 13.79 per cent. The best managed hospital, the little San Sebastian, in 1803, admitted 553 patients; discharged, 473; died, 78; mortality per cent. 14.10: yellow fever, 428; cured, 360; died, 69; mortality per cent. 16.12. In the Royal Military Hospital, including sailors of the royal navy, from 1792 to 1802, the mortality varied from 2.43 to 11.70 per cent. per annum; the average being 6.23 per cent. In 1806, Hospital San Carlos had a mortality of only 1.33 per cent., while San Sebastian had a mortality of 13.98 per cent., and Loreto had a mortality of 17.44 per cent.

[1] Fevers other than yellow fever, it is presumed.

[2] No one can tell why diarrhœa and phthisis are put together.

Statistics of the General Hospital of Vera Cruz, U. S. Army, from April 1, 1847, *to March* 31, 1848, *one year.*

Abstract of the report of sick and wounded, made to the Surgeon-General, for the quarter ending June 30, 1847 :—

Regulars.—Number of cases	1,310
" " of fever	234
" " yellow fever	112
" " diarrhœa and dysentery	482
Mortality—Total number	156
" all fevers	26
" yellow fever	14
" diarrhœa and dysentery	84
Mortality per cent.	11.45
" " all fevers	11.11
" " yellow fever	12.50
" " diarrhœa and dysentery	17.42
Discharged for disability	0.46
Volunteers.—Number of cases	860
" " of all fevers	178
" " yellow fever	14
" " diarrhœa and dysentery	347
Mortality—Total number	73
" " from all fevers	9
" " yellow fever	4
" " diarrhœa and dysentery	33
Mortality per cent.	8.48
" " all fevers	5.05
" " yellow fever	28.57
" " diarrhœa and dysentery	9.51
Discharged for disability	12.67
Quartermaster's men, sailors, &c.	
Whole number of cases	144
" " all fevers	86
" " yellow fever	52
" " diarrhœa and dysentery	40
Total mortality	30
Mortality from all fevers	18
" " yellow fever	13
" " diarrhœa and dysentery	7
Mortality per cent.	20.83
" " from all fevers	20.93
" " yellow fever	25.00
" " diarrhœa and dysentery	17.50

Consolidated report of regulars, volunteers, quartermaster's men, &c., for the quarter.

Mortality per cent.	10.93
" " from all fevers	10.64
" " yellow fever	17.41
" " diarrhœa and dysentery	14.27

Abstract of the report for the quarter ending 30th of September, 1847.

Regulars.—Number of cases	629
" " of all fevers	163
" " yellow fever	72
" " diarrhœa and dysentery	179
Total mortality	132
" from all fevers	43
" yellow fever	34
" diarrhœa and dysentery	55
Mortality per cent.	20.98
" " of all fevers	26.38
" " yellow fever	47.22
" " diarrhœa and dysentery	30.72
Volunteers.—Number of cases	554
" " of all fevers	271
" " yellow fever	52
" " diarrhœa and dysentery	138
Total mortality	36
" from all fevers	20
" yellow fever	16
" diarrhœa and dysentery	12
Mortality per cent.	6.49
" " of all fevers	7.38
" " yellow fever	30.76
" " diarrhœa and dysentery	8.69
Quartermaster's men, sailors, &c.	
Total number of cases	377
" " of all fevers	217
" " yellow fever	100
" " diarrhœa and dysentery	69
Mortality	40
" of all fevers	31
" yellow fever	28
" diarrhœa and dysentery	8
Mortality per cent.	10.61
" " from all fevers	14.28
" " yellow fever	28.00
" " diarrhœa and dysentery	11.59

Consolidated report of regulars, volunteers, quartermaster's men, &c., for the quarter.

Mortality per cent.	13.33
" " from all fevers	14.43
" " yellow fever	34.82
" " diarrhœa and dysentery	19.43

Abstract for six months, commencing April 1, and ending September 30, 1847.

Regulars.—Number of cases	1,939
" " of all fevers	397
" " yellow fever	184
" " diarrhœa and dysentery	661

Total mortality	282
" from all fevers	69
" yellow fever	48
" diarrhœa and dysentery	139
Mortality per cent.	14.54
" " from all fevers	17.38
" " yellow fever	26.08
" " diarrhœa and dysentery	21.02
Volunteers.—Number of cases	1,414
" " of all fevers	449
" " yellow fever	66
" " diarrhœa and dysentery	485
Mortality—whole number	109
" in all fevers	29
" yellow fever	20
" diarrhœa and dysentery	45
Mortality per cent.	7.70
" " from all fevers	6.46
" " yellow fever	30.30
" " diarrhœa and dysentery	9.27
Quartermaster's hands, of all kinds.—	
Total number of cases	521
" " of all fevers	303
" " yellow fever	152
" " diarrhœa and dysentery	109
Mortality—number	70
" from all fevers	49
" yellow fever	41
" diarrhœa and dysentery	15
Mortality per cent.	13.24
" " from all fevers	16.17
" " yellow fever	26.97
" " diarrhœa and dysentery	13.76

Summary for six months, regulars, volunteers, and quartermaster's labourers.

Total number of cases	3,874
" " of all fevers	1,149
" " yellow fever	402
" " diarrhœa and dysentery	1.255
Mortality—number	461
" from all fevers	147
" yellow fever	109
" diarrhœa and dysentery	199
Mortality per cent.	11.90
" " from all fevers	12.80
" " yellow fever	27.11
" " diarrhœa and dysentery	15.85

With these tables ends the yellow fever of 1847, the mortality being 27.11 per cent., as above stated; for there were so few cases in the next quarter (ten) as not to affect the results. No comparison can be made between the

regular troops and volunteers, for in the quarter ending with June, the twelve months men were rapidly discharged for disability, and they were all sent to the United States in a body, for discharge, before yellow fever became severe. In the quarter ending with September, the so-termed regulars belonged almost entirely to the newly raised ten regiments, and were in reality raw recruits.

Abstract of the report of sick for the quarter ending December 31, 1847.

Regulars.—Number of cases	652
" " of all fevers	116
" " yellow fever	3
" " diarrhœa and dysentery	195
Mortality—number	79
" from all fevers	10
" yellow fever	2
" diarrhœa and dysentery	59
Mortality per cent.	12.11
" " from all fevers	8.62
" " yellow fever	66.66
" " diarrhœa and dysentery	30.25
Volunteers.—Number of cases	1,041
" " of all fevers	328
" " yellow fever	7
" " diarrhœa and dysentery	292
Mortality—number	113
" from all fevers	23
" yellow fever	5
" diarrhœa and dysentery	63
Mortality per cent.	10.85
" " from all fevers	7.01
" " yellow fever	71.42
" " diarrhœa and dysentery	21.57

Report for quarter ending March 31, 1848.

Regulars.—Number of cases	539
" " of all fevers	55
" " yellow fever[1]	6
" " eruptive "	39
" " diarrhœa and dysentery	170

[1] Six cases among the regulars in the month of March; among the volunteers three cases, one in January, one in February, and one in March. It appears that cases of yellow fever, more or less, occur among strangers during every month in the year. In February, 1848, I was called to visit a young Mexican woman, from Jalapa, married to an American, just arrived, with her husband and brother, in Vera Cruz. The brother and sister had never been in the city before, and had never seen the ocean. Both the brother and herself, residing in different families, were taken with malignant yellow fever on the first day of February. The brother was attended by a Spanish physician, and died during the severe illness of the sister, the result of his case being carefully concealed from her. My patient had a malignant form of the disease, and was treated on the plan before stated; in the first stage, calomel and quinia, the quinia being given freely, olive oil and lemon-juice, cupping, &c.; and when the case

Mortality—number	67
" from all fevers	9
" yellow fever	4
" eruptive "	1
" diarrhœa and dysentery	47
Mortality per cent.	12.43
" " from all fevers	16.36
" " yellow fever	66.66
" " eruptive "	2.56
" " diarrhœa and dysentery	27.64
Volunteers.—Number of cases	360
" " of all fevers	53
" " yellow fever	3
" " eruptive "	11
" " diarrhœa and dysentery	114
Mortality—number	55
" from all fevers	7
" yellow fever	2
" eruptive "	3
" diarrhœa and dysentery	33
Mortality per cent.	15.27
" " from all fevers	13.20
" " yellow fever	66.66
" " eruptive "	27.27
" " diarrhœa and dysentery	28.94

Summary for one year, commencing April 1, 1847, and ending March 31, 1848.

Number of cases	6,466
" " of all fevers	1,701
" " yellow fever	421
" " diarrhœa and dysentery	2,026
Mortality—total	775
" from all fevers	196
" yellow fever	122
" diarrhœa and dysentery	401
Mortality per cent.	11.98
" " from all fevers	11.52
" " yellow fever	28.97
" " diarrhœa and dysentery	19.79

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was more advanced, blisters were applied to the cervical spine and epigastrium. February 8, the eighth day from the attack, I was obliged to leave Vera Cruz, and gave some general directions for the management of the patient; small doses of quinia, the infusion of palo mulato (before spoken of), enemata, small quantities of chicken-broth and beef-tea—above all, to send for another physician. The hostess was a capital nurse in yellow fever; and I afterwards understood that my advice was carefully followed, except to send for another physician, and the patient recovered. The Mexicans from the *tierra templada* appear to be more liable to yellow fever in Vera Cruz than the Americans, even those from the most northern State. Vera Cruz is a terror to the inhabitants of the interior. But what cannot a rigid police effect! Yellow Fever prevailed to a great extent in Charleston, New Orleans, and other southern cities, in 1852; Vera Cruz was in a better state of sanitary police than any city of North America, and consequently suffered less from yellow fever.

It is curious to observe the result of the numerical method in medicine. The real endemic, which ended by the 30th of September, shows a mortality of 27.11 per cent., but a few scattering cases and deaths (19 cases and 14 deaths) during the succeeding six months, augments the mortality for the year to 28.97 per cent., an increase of almost 2 per cent. per annum. Suppose a physician were to have but one case of yellow fever, what would be the consequence? If the patient recovers, the cures will be 100 per cent., almost equal to what some physicians boast of; but if the patient should unfortunately die, the mortality will be 100 per cent. The mortality from bowel affections is truly frightful. These complaints are much more formidable than even the yellow fever, and for this reason: Yellow fever is soon over, for recovery or death, soon takes place, under the eye of the physician; whereas, diarrhœa and dysentery may continue for a long time, weeks, months, and even years, the physician loses sight of the patient, and he at last dies of the original disease. The history of hundreds, officers and men, who came out of Mexico, tells the story. A patient with yellow fever may pretty certainly be said to have recovered, but diarrhœa and dysentery can never, in a tropical climate, be pronounced cured. Hence, the statistics of southern diarrhœa and dysentery (the chronic form is spoken of throughout) are of no great value.

It is to be distinctly understood that I had little or nothing to do with the hospital in the first quarter of 1848. But two medical men from New Orleans were eternally "harping on my daughter"—the Charity Hospital of that city; and it is for the purpose of comparison that the statistics of the Vera Cruz General Hospital for an entire year are so desirable. The mortality for one year at the Hospital San Francisco, Vera Cruz, was 11.98 per cent.; the mortality of the Charity Hospital, New Orleans, according to the able paper of Dr. Simonds, from 1839 to 1850, inclusive, varied from 9.3 per cent. to 27.2 per cent., the average mortality being 15.44 per cent. per annum.[1] The mortality from yellow fever in the Vera Cruz General Hospital was 28.97 per cent. for the year. Dr. Simonds says: "The records of the Charity Hospital give as the average mortality from yellow fever, during twenty-five years, 44.27 per cent., or 1 in 2¼." Mortality from yellow fever in 1847, 36.1 per cent. Mortality per cent. in 1847, 17.8.

Causes of the large mortality of 1847, in the Vera Cruz General Hospital.

1. Our troops were strangers to the climate. It is the same, probably,

[1] "The average mortality, from all diseases, in the Charity Hospital, during twenty-six years, from 1825 to 1850, is 16.45 per cent., or 1 in 6."—Simonds, *Charleston Med. Journ.* September, 1851, p. 704. By the same paper it appears that, from 1825 to 1850, there were but four years in which the mortality was less than in the Vera Cruz Hospital—1831, 1845, 1846, 1850—the mortality per cent. in those years being respectively 11.49, 9.3, 10.8, and 9.98. That of Vera Cruz is 11.98 per cent. I speak of the General Hospital.

with the great majority of the patients admitted into the New Orleans Charity Hospital.

2. The immense size of the hospital. The larger the hospital the greater the mortality, for obvious reasons. The most successful hospital, in our humble opinion, is one which can be managed by one medical officer, or at most with one or two good assistants. Perhaps the Charity Hospital resembles ours in this respect.

3. Incompetent physicians. This was a serious evil. Immediately after the battle of Cerro Gordo, April 18, every military surgeon and assistant-surgeon was ordered up to assist the wounded, with the exception of Assistant-Surgeon Laub (medical purveyor, and in charge of the First Infantry Hospital) and myself, and employed physicians had to be substituted; and such medical men as some of them were! Our limits will not permit of more than an allusion to some of these beautiful specimens of a learned profession. About the 1st of July several very good employed physicians arrived from New Orleans, but we continued to be more or less embarrassed by these pests to the close of the season. The Charity Hospital has no such difficulties to contend with; for, since I have known anything of the institution, its medical staff has been capable, efficient, and meritorious.

4. Incompetent, dishonest, and disabled hospital stewards. When the army advanced on Cerro Gordo, in April, the general of division in the immediate command of Vera Cruz, on his departure, took with him every able-bodied steward, cook, and attendant, leaving only invalids and broken-down men for the duties. Not a single healthy steward, ward-master, cook, or nurse was left. It is true that good ones were afterwards picked up, here and there, but this was a work of time. Can the Charity Hospital say as much? It is well known that honest, faithful, sober, and efficient hospital stewards are the right arm of the military surgeon, and it is the misfortune of our service that we have too few of them.

5. Bad cooks and nurses. Worthless and drunken men were easily enough found for these duties; but are they proper assistants in a hospital? A better set of men than these was ultimately found, but it had to be a work of time. We had none of the Sisters of Charity in our recently-formed institution; but, at best, the nurse was a rough, hard-handed soldier.

6. We had nothing to commence with except sick men, who came in daily by scores and hundreds.

7. Moribund patients. These were admitted in numbers, the patients often dying in four or five hours, even in one hour, after entering the hospital. It is wrong to impugn men's motives, but it really did appear to me that, sometimes, yellow fever patients were sent to our hospital to die. But there was no help for it, as a general hospital must receive every one, and if the dead and dying were brought, they had to be received. Even if the patient were not moribund on admission, so much time had often been lost as to render his situation hopeless; for it will be recollected that yellow fever must

be brought at once under treatment, and the delay of a very few hours may seal the fate of the case. This delay, and these moribund cases, swelled the mortality at Vera Cruz. No hospital feels this more sensibly than the New Orleans Charity Hospital. Some remarks on this subject, by a New Orleans physician, are recollected, but the paper is not at hand.

These remarks are not caused by a desire to disparage the Charity Hospital. On the contrary, this hospital has been one of the most useful in our country; and the city of New Orleans, and the people of Louisiana, ought to be proud of such an institution, and give it a liberal support. But *toujours perdrix* had so often been sounded in my ears, that I determined to institute an inquiry on the first opportunity.

I have spoken of incompetent physicians in our hospital, and we will now turn to a more agreeable subject, that of rendering "unto Cæsar the things which are Cæsar's." Drs. Barnes, Compton, and Fourniquet, employed young physicians of New Orleans, did excellent service, managing the sick judiciously. Dr. E. De la Puente, a Spanish physician of Vera Cruz, educated in his profession at the University of Pennsylvania, did good service, both as a physician and by his knowledge of the Spanish language. Assistant-Surgeon P. G. S. Ten Broeck, U. S. A., put in order a mismanaged division of the hospital, his "illustrious predecessor," an employed physician from New Orleans, having been found wholly incompetent. Assistant-Surgeon John Campbell, U. S. A., who was on duty in the city of Vera Cruz but a short time, was zealous, efficient, and did good service. This gentleman had a severe attack of fever at the Castle of San Juan de Ulua, to which fortress he had been ordered. Dr. Hankel, employed physician, did good service; nor must I omit Mr. Willy, medical student from New Orleans, who came out as one of the stewards, to see disease in all forms, and who performed excellent service. To all of these gentlemen, with Assistant-Surgeon Laub, U. S. A., I am under obligations, and their assistance, in trials and difficulties, will never be forgotten. Here ends the communication to the Surgeon-General.

ART. II.—*Surgical Cases. Aneurismal Tumours upon the Ear, successfully treated by the Ligation of both Carotids.—Recto-Vaginal Fistula, cured by Operation.* By R. D. MUSSEY, M. D., Professor of Operative Surgery in the Miami Medical College, at Cincinnati, Ohio.

CASE I. *Aneurismal Tumours upon the Ear treated by Ligation of both Carotids.*—Early in November last, Luther Gordon, æt. 19, accompanied by his physician, Dr. Kramer, came from Indiana, with his head bound up, to this city, on account of aneurismal tumours upon his left ear, and was admitted into St. John's Hospital.

The cavity of the concha was occupied by a pouch which rose above the level of the antitragus, and another covering the tragus and extending some way anterior to it, and pushing outward, was as large as a middling-sized nutmeg. Continuous with the upper part of this was a considerable elevation of the integument which covered the scaphoid fossa, and an inch and a half of the fossa innominata. Below the root of the ear, in the depression between the mastoid process and the ramus of the jaw, and partially covered by the lobulus, was a globular tumour of the same character, as large as a moderate-sized Isabella grape. All these tumours, or pouches, were elastic, and compressible almost to obliteration, pulsated strongly, and seemed to have a communication with each other, like the portions of an arterial varix. The whole circumference of the ear was larger than that of the other, and its integuments everywhere hypertrophied.

L. G. was of medium stature, with auburn hair and hazel eyes, and, although somewhat delicate in appearance, had enjoyed, from childhood, a pretty uniform health. From birth there was a cutaneous nævus in front of the left ear, but it attracted no particular attention. About eight years ago small elevations of the integument were observed at the points already described as the site of the tumours, in which pulsation was perceptible, especially after exercise. This, together with the size of the tumours, slowly increased, until, a month before he came here, the posterior extremity of the pouch occupying the fossa innominata burst open, causing alarming hemorrhage. This was suppressed by compression; and, subsequently, when the bandage and compresses were removed, the crust covering the opening gave way, and a pulsating jet of arterial blood followed.

With reference to the treatment of this case, the most promising course which presented itself, was the ligation of one or both carotids. The success which followed the tying of the primitive carotid, by Mr. Travers, in 1809,[1] for "aneurism by anastomosis of the orbit;" and in a similar case by Mr. Dalrymple, in 1813;[2] and also the tying of both carotids, by Dr. J. Mason Warren, in a remarkable case of vascular tumour of the mouth, face, and neck, in 1846,[3] afforded encouragement for this procedure; yet the case I had in 1829,[4] in which I tied both carotids for a large vascular pulsating tumour on the vertex of the head, not having been cured until the tumour was dissected away, left room for doubt whether, in the present instance, the ligature of both carotids even, might not fail of accomplishing the end desired. I determined, however, to resort to the application of a ligature to one of these vessels, possibly to both. The patient had been kept chiefly on farinaceous food since the first outbreak of the hemorrhage, and it was now enjoined upon him to live wholly without animal food until the operation.

On the 18th of November, I tied the left carotid. The pulsation in the tumours ceased on tightening the ligature, and did not afterwards return. His food was strictly farinaceous, with water for his only drink. After the lapse of ten days, a little milk was allowed. No unpleasant symptom occurred, except that when he began to sit up, which he was permitted to do in twelve days, he complained of indistinctness of vision in the left eye. It continued for several days, though less and less marked, till it ultimately subsided altogether. This symptom, indicating a defective supply of blood to the visual apparatus, has been sometimes observed, but I had not myself before noticed

[1] Medico-Chirurg. Trans. vol. ii.
[2] Ibid. vol. vi.
[3] Amer. Journ. Med. Sci. vol. ii. New Series, p. 281, 1846.
[4] Ibid. vol. v. p. 316, 1829.

it in either of the six cases in which I had applied a ligature to the common carotid. A slow reduction of the tumours took place; but, as it was quite doubtful whether a cure would follow, I proceeded, in four weeks, to ligate the right carotid. A slight effect was observed on the vision of the right eye when the patient began to sit up, similar to what had taken place with the other.

The two operations were performed while the patient was asleep from the inhalation of a mixture of chloroform, one part by measure, and washed sulphuric ether, two parts. Both arteries were tied just below the crossing of the omohyoid muscle. One ligature came away in sixteen days, the other in twenty. After the second operation the reduction in size of the tumours was much more rapid. In about three weeks, collodion was applied and repeated every two or three days. This seemed very much to promote the contraction of the pouches, and on the 28th of January, viz., *seven* weeks from the last operation, L. G. left for home with scarcely a vestige of the tumours remaining. I considered the result of the operations to be a permanent cure.

The last of April, three months after the patient went home, one of his physicians, residing near him, called on me, and gave the assurance that there were no remains of the swelling, and that he regarded the case as perfectly cured.

Case II. *Recto-Vaginal Fistula.*—Mrs. G., æt. 28, of fair complexion and delicate appearance, but possessing a pretty good constitution, apparently free from hereditary tendency to disease, was married between five and six years since. Being subject to costiveness, the recto-vaginal wall, under the influence of undue pressure, gave way some time after marriage, and a fistulous opening remained. This was somewhat enlarged during labour with her only child, which was born some two years after matrimony. Being very cleanly in her habits, Mrs. G. was able to keep herself comfortable when the feces were of a firm consistence, but when diarrhœa, or a state approaching it, existed, a considerable portion of the contents of the rectum passed through the vagina. All along, the monthly evacuation was uninterrupted, and the state of the bowels was regulated by aperients and injections.

On the 25th of March, 1853, I performed the first operation, which consisted in a division of the sphincter ani on one side, the object of which was to promote the contraction of the fistula by allowing the feces to pass through the anus without effort. Before this wound was quite healed, I proceeded, on the 20th of April, assisted by my son, Dr. Wm. H. Mussey, Dr. A. M. Slocum, and Dr. Logan, to the second operation. The hair having been removed from around the anus and posterior part of the vulva, the patient was put into the anæsthetic state by the mixture of chloroform and ether, and placed in the position usually chosen for lithotomy, the lower limbs being supported by assistants. A bivalve speculum was passed into the anus, while the sides of the vulva were drawn aside. In this state of tension of the parts, the fistula, brought fully to view, was sufficiently large to admit the two fingers. It was slightly oval shaped, its longest diameter forming an angle with the median line. The edges of the opening were freshened by a straight, narrow, sharp-pointed bistoury, and brought in contact and sustained by the *clamp suture* of Dr. Sims, of Alabama. A piece of elastic gum catheter was secured in the urethra; and the urine, the whole of which passed through the

instrument, was received by a sponge, or a folded cloth. The catheter was removed and cleaned every second or third day, and returned to its place, or replaced by a new one. The patient lay chiefly on her back, sometimes upon her side. She slept well the night after the operation, after taking the eighth of a grain of the sulphate of morphia. She took this dose but once more during her confinement; in a few instances, when a little restless at evening, she took a teaspoonful of the fluid extract of valerian. She generally slept well at night. The pulse was scarcely, if at all accelerated; there was no thirst; the tongue was clean; and there was no headache, except a little in the mornings after morphia or valerian had been taken.

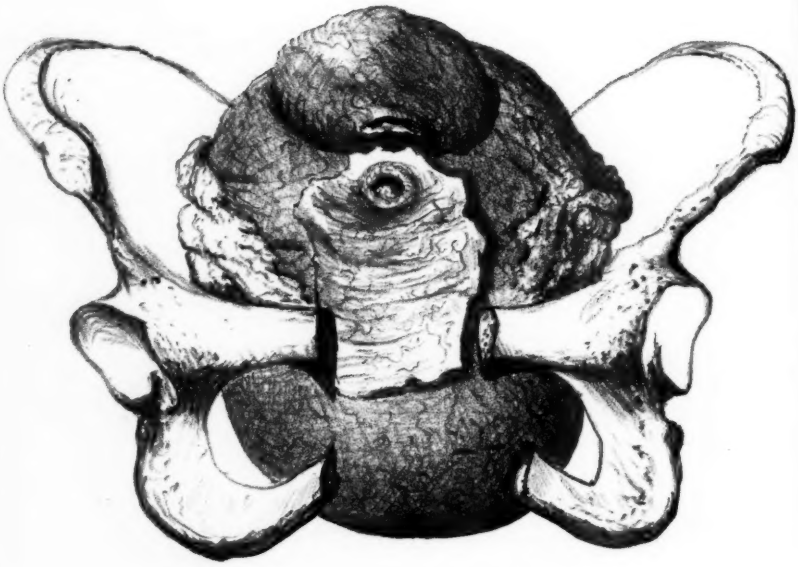
This undisturbed state of the system was to be attributed, in a great measure, to the unstimulating and spare diet which was persevered in. Up to the eighteenth day from the second operation, she lived on *two* to *two and a half crackers a day.* The whole weight of this solid food was *less than five ounces;* the only drink was cold water. On the eighteenth day, a gill of milk for the twenty-four hours was allowed in addition. The vagina was daily injected with water, and mopped dry. On the *seventh* day the stitches were cut out, and the wound was found united through the whole extent. The catheter was left out on the *eighteenth* day, and the patient allowed to be bolstered up a little in bed for half an hour, which was repeated two or three times a day afterwards.

On the *twenty-fourth day* a motion of the bowels was procured, by two drachms of castor-oil made into an emulsion with mucilage, and given every three hours until it operated. Nothing had passed the bowels all this while, except occasionally a small quantity of gas. From this time Mrs. G. took more food; was soon able to sit up all day; and left for home on the *twenty-second* of May, four and a half weeks after the operation. Two weeks after she had returned home, she wrote that she was perfectly well in all respects.

Dr. Sims[1] is well entitled to the thanks of the profession for having introduced what he calls the *clamp suture,* in the treatment of vesico-vaginal fistula, consisting of two cylinders of silver, or lead, perforated at several points, for the passage of pieces of small silver wire, which are to supply the place of thread, and which are to be prevented from slipping by perforated shot carried down upon them, pressed against the cylinders, and kept in place by being firmly pinched with pliers. Dr. S. makes his cylinders one line in diameter, and his wires of the size of a horse-hair.

In the case of Mrs. G., I used leaden cylinders, a line and a half in diameter, believing that they would be less liable to become imbedded, and to cause ulceration in the soft parts against which they are pressed; they were perforated too at distances of *one-fifth* of an inch, instead of *one-third,* or more, of an inch, as practised by Dr. S. I see no objection to the stitches being within the fifth of an inch of each other, inasmuch as there is little, if any, tendency to suppuration around the wires; and there seems to me to be this advantage from the near stitches, viz., that the parts intermediate to them may be brought into sufficiently firm contact for adhesion, with a less amount of pressure, and of course with less liability to strangulation of the vessels of the parts included in the suture. Dr. Thomas, in the eastern part of Ohio,

[1] Amer. Journ. of Med. Science, Jan. 1852.



Dr. MEIGS' CASE OF RETROVERSION

now of Pittsburg, Pa., who treated a case of vesico-vaginal fistula with entire success, placed his stitches in the clamp suture about the fifth of an inch apart. The wire which I employed in the recto-vaginal fistula, was not far from twice the diameter of a horse-hair. I suppose that the shot compressed upon it is a little less liable to slip than upon one only half the diameter. The stitches were entered about one-third of an inch from the cut edge of the opening and carried as deep as possible, without passing through the mucous lining of the rectum. When the suture was removed on the seventh day, it was found that a slight ulceration existed where the extremity of one of the cylinders lay. This was healed in a few days.

Cincinnati, *June* 20, 1853.

P. S. I saw Mrs. G. on the 30th of July, more than three months after the operation, in a state of perfect soundness of health.

August 25, 1853.

Art. III.—*Account of a Fatal Case of Retroversion at the Fifth Month of Pregnancy.* By C. D. Meigs, M. D., Professor of Midwifery in the Jefferson Medical College. [With a plate.]

The accompanying lithograph exhibits the appearances as to the posture of the retroverted womb, which it is the object of this communication to describe. The os pubis, with its rami, being removed, a view was obtained of the remainder of the vagina, being its posterior wall, at the top of which is seen the os uteri, slightly dilated. It was very resisting, so that the index finger could not, without much force, be introduced within it. Above the os is seen the thickened and contracted bladder, which has been cut off at the neck. The size of the womb, relatively to the pelvis, is correctly shown, the fundus being adherent to the lower part of the excavation of the pelvis.

The patient, an unmarried woman, was admitted to the Blockley Hospital on the last week of May, 1853. She was twenty-two years of age; had given birth to a child two years ago, and by her own reckoning, was now five months gone again. At the time of her admission to the female ward she complained of abdominal pain, with suppression of urine, distension of the belly, and fever. She laboured under violent tenesmus, and presented the signs of imminent dangerous disease.

Soon after her admission, some bloody urine was drawn off by the catheter, Dr. Steward, the physician-in-chief, having ascertained the existence of retroversion of the womb. The attempts made by that gentleman to relieve the unfortunate woman by repositing the uterus, were wholly unavailing—the fundus being immovably fixed in the inferior part of the pelvis, while the os

uteri could, with some pains-taking, be felt between half an inch and an inch above the top of the pubic symphysis.

Various remedial measures, adopted by Dr. S., did not bring about any material amendment of the patient's condition. In the course of the treatment, a very great quantity of blood was discharged, whether spontaneously or by the catheter, from the bladder of urine: but notwithstanding these cares, together with a sedulous attention to the regulation of the alvine evacuations, the woman's distress became constantly greater. On the 9th day of June, Dr. S. did me the favour to invite me to a consultation with him on the case; and, upon a very carefully conducted research, it was agreed: 1. That the bladder was still greatly distended, though Dr. S. had allowed a flexible French catheter to remain within the bladder for several hours. Yet when this catheter was withdrawn, the bladder was still greatly distended, and lying upon and in front of that portion of the womb that had risen above the plane of the superior strait of the pelvis. Its outline could be distinctly traced through the abdominal integuments. The resistance of it showed that the contents were concrete, and not fluid. A metallic catheter introduced into the cyst brought away putrid grumes of long-coagulated blood; and, upon injecting tepid water through the catheter, the liquor returned charged with the most putrid colluvies mixed with broken clots, evidently of long standing. 2. The os uteri could with difficulty be reached by the index finger carried above the top of the pubis, and the posterior wall of the womb inclined downwards and backwards into the bottom of the recto-vaginal *cul-de-sac* of Douglass. A protracted effort, which I made, to elevate the fundus, and bring the cervix down, proved fruitless, though, in making it, I caused the patient to place her sternum on the bed, and raise the hips by bringing the knees vertically beneath the pelvis; which is the best possible position to favour such an operation. 3. The failure of all attempts to reposit, whether by the hand, by the use of the catheter left *in situ* for many hours (a method heretofore much recommended), or by Hervez de Chegoin's elastic caoutchouc bags, gave reason to believe that the retroversion was incurable in consequence of adhesion of the fundus with the back part of the pelvis. But, as this diagnostic could only be deemed presumptive, and not demonstrative, it was concluded that the cares should be continued, with a view to wash out the putrid grumes from the bladder; and it was, perhaps, reasonable to hope that, if the bladder could be wholly relieved of its solid distending contents, it might become possible to push up the fundus, and show that the apprehensions as to adhesion were groundless.

On the 18th of June, the woman died in the night, having been quite relieved of the putrid coagula, and having also partially recovered power to pass the urine without the catheter.

I was again obliged to Dr. Steward for his great kindness in inviting me to witness the *post-mortem* examination, which took place at the Blockley Hospital, at 4½ P. M., of Sunday, June 19, 1853. There were present Dr.

Steward, Physician-in-chief to the Hospital, assisted by Drs. Taylor, Coleman, Taggart, Budd, Marseilles, and Barksdale, of the house, and the undersigned.

The contemplation of such a case affords a most useful practical lesson; it is, that all women who labour under retroversion of the uterus, are, in addition to the pain and other inconvenience arising from the accident, liable to no inconsiderable risk of adhesion of the fundus in the bottom of the pelvis. Such adhesions are not very uncommon; and, as they are inaccessible to the surgeon, must be regarded as incurable.

A woman with adherent retroversion is liable to conceive; and, in that event, can only escape from death by abortion; since the progressive development of the ovum must, as early as the fifth or sixth month, pack the cavity of the pelvis so completely, as fatally to obstruct the offices of the rectum, the ureters, and the bladder.

In all such cases the sole resource is in a forced abortion; and the practitioner should feel warranted, in formal consultation only, to proceed to the performance of the proper operation.

In a case where it might be practicable, he would rupture the ovum by means of a womb-sound introduced within the canal of the cervix. It might, however, be impossible to do so on account of the great elevation of the os above the symphysis. It could not have been done in Dr. Hunter's case, described in his famous tables of the gravid womb. I do not know that it would have been practicable in this case. A sure method of compelling the womb to contract consists in puncturing the organ with an exploratory trocar, by which the amniotic liquor could be withdrawn perhaps with little damage to the womb itself. Labour would sooner or later ensue upon the discharge of the waters. Where the ovum cannot be reached through the os and neck, the trocar would be allowable.

Dr. Steward could not feel justified to perform such an operation, in this case, complicated as it was with so violent an attack of cystitis. I do not hold that the surgeon is bound to compromise the glory of his art in a mere faint hope that good might follow an act of questionable propriety.

The remains exhibited the appearances so common to those who die rapidly with violent disease, and the dissection showed that the immediate agent in the destruction was an intense cystitis, ending in ramolescence and perforation of the bladder, with consequent escape of urine into the peritoneal cavity.

The *embon-point* was considerable.

The abdomen was much distended with gas, and sonorous on percussion.

A crucial incision exposed the contents of the abdomen. The colon was enormously distended, the small intestines considerably so. The peritoneal sac contained twelve to eighteen ounces of serum. No inflammatory exudation was observed causing the convolutions to cohere.

The mesentery and mesocolon being cut away at the root, the alimentary

canal was removed, leaving a clear space to pursue the rest of the dissections.

Attempts to reposit the uterus were now renewed, by thrusting the hand down betwixt the uterus and the curve of the sacrum, but they were protracted and repeated in vain. The fundus could not be pulled up from its place in the recto-vaginal *cul-de-sac*.

The gentlemen hereupon cut away the pubis with a saw, which passed in front of the acetabula, and through the rami of the ischial bones. Upon removing the bone, the os uteri was exposed. A ruler being laid across the hypogastrium, on a level with the anterior superior spinous processes of the ossa ilia, showed us that the os was within an inch of a line drawn from one spinous process to the other, which shows how completely the organ was turned topsy-turvy.

After the ossa pubis were taken away, with difficulty I passed the index finger of the left hand into the os, and the whole of the right hand down behind the mass of the womb in front of the sacrum. In this way I employed a great deal of force in a vain attempt to reposit the organ. But no effort did or could succeed until a quantity of strong adhesion, that had bound the fundus to the lower part of the sacrum, was destroyed with a bistoury; whereupon, the slightest effort sufficed to reposit the os uteri, which descended into its place.

The womb and vagina, with the bladder and rectum, being next carefully taken out of the pelvis, it was seen that the bladder was empty; an incision being made, its coats were seen to be greatly thickened. The whole mucous surface was covered with exudation-membrane, and the tissue was so far gone in inflammatory ramolescence, as to tear like wet paper. A perforation was observed which must have given issue to the urine; which, falling into the peritoneal cavity, developed the extensive peritonitis, the product of which was exhibited in the serous deposit already mentioned.

The next step was to an examination of the womb. An incision being made, with care, to avoid opening the membranes, it was carried up to the edge of the placenta, which was seen attached at the fundus.

As I have on various occasions published my views concerning the mode of connection betwixt the placenta and the womb, I was desirous that all the gentlemen should avail themselves of so good an opportunity to judge for themselves as to the facts in this case. Wherefore, exposing the object in a clear light, they were earnestly exhorted to observe critically the appearances to be presented during the process of separating the placenta from the womb.

The ovum was still unruptured.

Taking hold of the cut edge of the uterus with two dissecting forceps, and gradually raising the edge, or margin; from the basin in which it was held, the unbroken ovum very slowly rolled out from the opened organ, thus effecting the separation by force of gravitation. Each one of the company carefully scrutinizing the appearances, endeavoured to discover any signs of broken tractus

of bloodvessels as the placental surface slowly drew itself away from the uterine surface, and it was agreed by all of the gentlemen that not a bloodvessel was either broken or drawn out during the entire act of separation. The appearances were so similar to those witnessed during the avulsion of a placentule from a cotyledon in the ruminants, as to convince me that the same mechanical principle is employed by nature in both cases, as it certainly is in the solidungula, in the pachydermata, the rodents, and the cetacea.

I cannot refrain from expressing the satisfaction with which I observed this confirmation of the doctrine I have always felt it my duty to maintain, as well in my public lectures as in my printed works.

The embryon was well developed, at about five months and a half of utero-gestation. The liquor amnii was pure and transparent, and the substance of the uterus perfectly normal. The fundus still shows the remainder of the adhesions, which, by preventing the reposition of the womb, gave rise to the disorders from which the unhappy patient perished.

Both the kidneys were highly engorged. The pelvis and ureter of the right side were greatly dilated. It is probable the hæmaturia came from this kidney, possibly from both the kidneys.

My frequent experience in treating disorders of women, convinces me that cases of retroversion of the womb are much more frequent than is supposed. And this is the more surprising since no diagnostication can be more easily and certainly made.

The cases have undeniably proved very difficult to cure; and there may, perhaps, be some individuals who resist every method of treatment, in consequence of a permanent relaxation of the ligamenta rotunda, and ligamenta utero-sacralia. I shall, however, find it very hard to admit that a woman afflicted with retroversion merely, and wholly free from adhesion of the fundus, would not get quite well, provided a discreet use should be made of the annular pessary, described by Dr. Charles Evans, in a communication to the Philadelphia College of Physicians, and published in the *Transactions* of that College.

ART. IV.—*Large Popliteal Aneurism, presenting some Remarkable Phenomena.* By Dr. J. MASON WARREN, Surgeon at Massachusetts General Hospital. (With a wood-cut.) Communicated to the Boston Society for Medical Improvement.

IN the early part of February, 1853, I was requested to visit this patient in consultation with his physician, and learned the following history of his case. He was a mechanic, 35 years old, married, and had always enjoyed good health until about a year since, when he had an abscess in the left groin,

which was opened and did well. His occupation was turning a crank in a cannon-foundry, partly with his hand, but completing the revolution by pressure of the outer side of the knee, or rather leg just below the knee, against the crank. In December, 1852, he first noticed a small hard tumour in the left popliteal space, to which his attention was drawn by a pain in the spot, occurring at intervals, whether he was at work or at rest. For the three weeks preceding this trouble, he had used the crank daily, and often applied all the force possible by the knee. At first, liniments with bandaging were directed by a physician, and he kept on with his work, but finally the pain and swelling increased so as to confine him to the bed. The subcutaneous cellular membrane becoming involved in the inflammation, the whole leg and foot were enormously swollen and œdematous, and the pain most excruciating. The disease was now treated as an abscess; and the patient was under the care of various physicians, and several practitioners of homœopathy. Many applications had been made, such as poultices, water-dressings, etc., but without affording any relief; and, on the day previous to my seeing him, an incision was made into it with a lancet, under the idea of its being an abscess, which gave issue to nothing but blood.

At the time of my visit, the following were the appearances. The whole popliteal space was filled by an undefined swelling, or tumour, excessively tender to the touch, semi-elastic, with a feeling of deep fluctuation. The surface of the tumour was quite red, and the skin offered the appearances which are observed where suppuration is taking place beneath. The application of the ear detected a strong pulsation, such as may be observed where a large vessel is partially compressed by a tumour, or fluid collection. There was no aneurismal thrill. The whole leg and foot were enormously swollen and œdematous, so as to obscure all the anatomical marks of the limb. The pulse was 120, and the patient evidently much exhausted, having been under hydropathic and homœopathic treatment for the week previous, with no evacuation from the bowels, and no attempt to mitigate the excessive pain by the use of narcotics.

On account of the obscurity of the case, I advised against any incision. It was agreed to give a purgative, and use opiates afterwards to alleviate his sufferings. Under this course, accompanied with soothing local applications, the patient rallied, the pain became less acute, and the swelling of the leg and foot was much diminished. During the week following, the parietes of the tumour had grown more thin, and the question of an incision again arising, I was requested to see him a second time.

The general appearances of the diseased part were not much altered; the tumour was, perhaps, a little more defined, on account of the subsidence of the swelling of the limb below. The external aspect was still the same with that presented by an acute abscess. By compressing the femoral artery, it was found that the tumour became gradually smaller, returning again to its former size when the compression was removed. This diminution was only

to a limited extent, and not more than may be observed on compressing a large vessel which supplies any tumour possessing much vascularity.

From a consideration of the above phenomena, I was induced to repeat my advice against making an incision into the tumour, and give an opinion in favour of its aneurismal character. On subsequent inquiry into the appearance of the blood at the time of the incision, it was ascertained to have been arterial, and to have issued with a forcible jet, but easily arrested by compression of the aperture, so that there was no bleeding afterwards. My friend, Dr. Parkman, having visited the patient, at my request, coincided with me in opinion as to the probable aneurismal nature of the tumour.

The patient was now advised to enter the Hospital, where he could be more narrowly watched, as it was feared that in case of any sudden hemorrhage he might not be in a position to have it arrested in time to prevent dangerous consequences. Subsequently to his entrance, a consultation was held of the surgeons of the Hospital, who varied in opinion as to the nature of the tumour between a malignant disease and aneurism. From this reason, from the unhealthy state of the limb, and from the low condition of the patient, arising from his long illness and suffering, it was not thought advisable to apply a ligature to the artery for fear of mortification. It was therefore decided that an attempt at compression should be made on the femoral artery above the tumour.

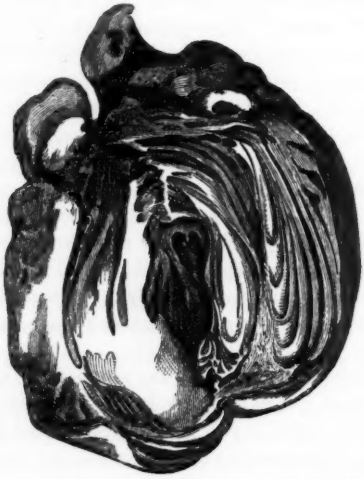
A bandage having first been applied to the lower part of the limb, and the tumour being well supported, compression was carefully made by means of Signorini's and the ring tourniquet, placed alternately on different parts of the femoral artery. On the third day afterwards, the cicatrix of the small opening in the ham, made before his entrance, and which had for some time been gradually becoming thinner, gave way, and a small stream of blood issued from it. This was easily arrested by gentle pressure, and had the advantage of deciding the diagnosis.

For a few days the tumour seemed to be more solid, and the compression, which was very carefully adjusted, had the effect to stop all pulsation in it. The severe pain under which the patient had laboured was also much mitigated thereby, and he seemed to improve generally. The tourniquets were changed every few hours, when the skin was washed with spirit, and dusted with the oxide of zinc.

About the fifth day of compression, the aspect of the tumour was not so favourable, an evident softening of the integuments was going on, and the parietes manifested a disposition to give way in another place. Coincident with the change in the tumour, the limb below assumed a mottled appearance, and became a little more swollen. From this period the patient gradually sank, and died on March 15th, about twenty days after his admission to the Hospital. Three slight hemorrhages occurred during the last week, varying in amount from four to six ounces each, so far as could be estimated from the appearance of the cloths and bandages about him. The day on which the

last of these took place, it was suggested that possibly by throwing ten or twelve ounces of blood into the veins, he might gain sufficient strength to allow the performance of amputation, which he now requested to have done, and which, though not suggested to him, he had pronounced before his entrance to the Hospital, would under no circumstances be submitted to. The transfusion produced a temporary increased action of the pulse, with a sensation to the patient of imparted strength, but not sufficient to warrant any surgical operation.

On examination after death, the disease was found to have been an aneurism of the popliteal artery, which had given way on its inner side, the opening being an inch long, and comprising half the caliber of the artery. The size of the vessel at its exit from, was not more than half that at its entrance into the tumour. The sac, filled by a large fibrinous concretion, was formed at the expense of the cellular membrane in the vicinity of the vessel, and lay between the latter and the bone. The osseous texture was extensively eroded. The knee-joint was filled with pus, and that portion of the capsule near the tumour almost gangrenous; so that, if the patient had survived a sufficient length of time, there would evidently have been a connection between the aneurism and the knee-joint. The interior of the sac was filled by a large mass of fibrin, of the size of an orange, showing most beautifully the concentric layers. (See Figure.) The cavity containing blood was reduced to the



size of a pigeon's egg, and being in the immediate vicinity of the artery, which, as already stated, was external to the coagulum, its situation was quite superficial. The small size of this cavity will sufficiently account for the slight diminution of the tumour under pressure, and consequent obscurity of diagnosis.

The compression in this case, which was very faithfully made for the space of ten days, had evidently gone far to obliterate the cavity of the aneurism, but the vital powers of the patient, exhausted by severe disease and suffering, were not sufficient to carry him through the treatment. The compression was effected without any excoriation of the integuments, and with very little comparative suffering; in point of fact he expressed himself as relieved by it.

In presenting this case to the Boston Society for Medical Improvement, the attention of the members was directed to the great difficulty of diagnosis. The disease at first had followed the course of an abscess forming in a deep situation, and confined under the fascia; with this idea, an incision had been made in it by the patient's physician. There was no aneurismal thrill; and previous to the inflammatory symptoms which obscured the disease, no unusual pulsation had been observed in the tumour by the patient or others.

A friend has recently pointed out a case in some respects similar, which was reported to the Royal Medical and Chirurgical Society of London, and published in the *London Lancet*, of February 5, a subclavian aneurism mistaken for an abscess and opened. The bleeding from the incision was slight and easily arrested. It was afterwards decided in consultation to be aneurismal, and the subclavian artery was tied. The author of this paper remarks on the difficulty sometimes experienced in forming a correct diagnosis between fungoid and aneurismal tumours. "The present case," he says, "had at first been taken for an abscess; and it was not until the hemorrhage took place, that its aneurismal character was suspected."

ART. V.—*Extracts from the Records of the Boston Society for Medical Improvement.* By WM. W. MORLAND, M. D., Secretary.

April 11. Dr. CHARLES E. WARE reported a case of *Puerperal Mania.*—The subject was a young woman —— years of age, frail, and who had been feeble, with some threats of miscarriage during the last months of pregnancy. She was confined March 28, of a feeble child, which was with difficulty made to breathe, and which survived only a few days. She had no secretion of milk. The infant was buried April 4. The mother appeared quite tranquil through the afternoon, and fell asleep in the evening as calmly as usual. In the middle of the night she awoke as if from a dream, or in a fit of nightmare, in a state of great agitation, and her reason entirely gone. Although the catheter was passed, no urine was obtained during fifty hours, and then only one and a half pints. She had no febrile symptoms. Her pulse was at 84. She slept very little. On the morning of the 7th, she awoke with her mind perfectly clear and natural, but in quite a feverish state and with a pulse of 120. Her face was flushed, her skin hot, and her tongue dry. She had a good evacuation from the bowels, and passed her urine naturally. She took food freely, which she had before refused.

This lucid interval continued until 11 o'clock at night, when she again became maniacal, and was much more active in the exhibitions of her insanity than at first; constantly talking and screaming. She had passed no urine since the morning. Her pulse, which had been accelerated during the lucid interval, again fell to 84. During the night she had little sleep. All her feverish symptoms had subsided. She took her food more readily than during the first interval. In the morning, about half a pint of urine was drawn off.

On the 11th, she again had a lucid interval of five or six hours, during which there was again the same febrile reaction as before, and, as before, she again evacuated her bowels and bladder naturally, being dependent upon the catheter and medicine during her insanity. She then again fell into the state of mania, and continued for five or six weeks gradually recovering her reason, and presenting nothing peculiar in her symptoms.

The points of interest were the instantaneousness of the attack, and the almost instantaneous transitions from mania to sanity, and from sanity to mania; together with the sudden febrile attack on the return of reason; its continuance during the lucid interval, and return to a natural state of the circulation on the occurrence of mania.

April 25. *Extensive Cancerous Disease of the Left Extremity of the Stomach.*—Case reported by Dr. J. B. S. Jackson. The patient was a female, thirty-two years of age. Entered the Hospital in December; had been dyspeptic for a year, and had had dysphagia since August; appetite quite good; but the food seemed to be thrown off before reaching the stomach; it would stop, apparently, for a moment or two at the lower extremity of the œsophagus, and, after a little gurgling, a small portion would pass into the stomach, and the rest would be regurgitated. There had been loss of flesh and strength for three months; and, after admission, she became very much reduced. Disease of the stomach was, of course, thought of, but as no tumour was ever felt in the epigastrium, a probang was introduced; this, at first, seemed to pass into the stomach, but, on farther examination, it was decided that it entered a very little way, if at all, into the organ, and that there was, probably, a mechanical obstacle at the cardiac orifice. There was much pain at the epigastrium; and, towards the last, an entire loss of appetite.

On dissection, the whole left extremity of the stomach was destroyed by foul, dark cancerous ulceration, the disease involving the lower extremity of the œsophagus. The fundus and body of the uterus were infiltrated with cancerous deposit, the organ thus far being thickened, though not apparently enlarged; cervix and os uteri healthy. Similar disease was found, to some extent, in the lungs and bronchial glands.

Dr. J. reported the case more particularly for its bearing on the diagnosis of stricture of the œsophagus. Some years ago he examined a case of encephaloid disease, not of the left extremity of the organ, but of the cardiac orifice, and which had been mistaken for stricture; the patient experiencing considerable relief from the probang, probably from its breaking down the soft masses that obstructed the passage.

Excision of the Shoulder-Joint for Caries.—Dr. J. Mason Warren. The patient was sixty years of age. Three years ago, the disease first manifested itself by a pain in the shoulder-joint. Within the last year, swellings have occurred about the middle and outer part of the arm, which being opened gave issue to a large quantity of pus. Other collections

of pus afterwards appeared on the inner side of the arm, and over the pectoral muscle. Explorations by means of a probe, through these apertures, did not discover any dead bone. In the mean time, the motions of the shoulder-joint had gradually become almost abolished, and the pain and great purulent discharge were wearing out the patient's constitution. About four months since, Dr. W. made an incision from the opening nearest to the shoulder-joint, towards the head of the bone, where he suspected the disease was situated. By this incision, a small portion of the os humeri was exposed in a carious state. The wound was kept open, and the free exit of pus afforded some temporary relief. The carious portion of bone detected being so small, and anchylosis having partially taken place, it was hoped that the cure might be ultimately effected in that way. After waiting a month without an improvement of the symptoms, the patient was etherized and the previous incision enlarged. It was now found possible, by the free exploration afforded by etherization, to examine fully as to the amount of disease. From half to two-thirds of the os humeri was in a carious state, and the glenoid cavity in the same condition; at the back part of the joint, false anchylosis had taken place. No hesitation was now felt as to the necessity of an operation, especially as the patient's health was becoming seriously affected from the profuse discharge and irritation. The operation was as follows: A triangular flap was raised from the shoulder, so as to expose the head of the bone. The strong adhesions between it and the socket were next cut through, which, with a little dissection, allowed the head of the bone to be turned out and sawed off by means of a small handsaw. The socket, being similarly diseased, was next removed by the cutting-forceps. Two or three sutures, with adhesive plaster, brought the edges of the wound into apposition. The patient has since done well. The strength of the arm and its natural sensations have been restored, and he is able to employ it in many of the necessary duties of life. The discharge from the various sinuses is gradually decreasing, and the large cavity, left by the removal of so extensive a disease, has filled up by granulation. His health is excellent. It is possible that, from the long continuance of the disease, exfoliations may still take place; but all the symptoms, at present, indicate ultimate recovery.

May 9. *Perforation of the Intestine in a Case of Simple Diarrhœa.*—The case occurred in the practice of Dr. Ezra Palmer, Jr. A female, aged thirty-nine years. The diarrhœa came on two months before death, having been preceded by dyspeptic symptoms, obstinate constipation, and general debility. The discharges were generally liquid, bilious, and without mucus or tenesmus; occasionally colorless mucus, with tenesmus; never much pain; confined to bed. Perforation took place four days before death; marked by a sudden attack of severe pain, with excessive prostration.

On dissection, there was found a large effusion of pus in the abdominal cavity, with some serum; omentum very red. The large intestine contained much fecal matter, notwithstanding the diarrhœa; and was very extensively ulcerated from the cæcum to the commencement of the rectum. To a considerable extent very little mucous membrane remained. No thickening, nor induration of submucous cellular membrane; much burrowing of ulcers, muscular coat clearly dissected where exposed. Almost no discoloration. Remaining mucous membrane apparently quite healthy. The perforation was in the arch of the colon, and a line or more in diameter. Small intestine healthy. Liver fawn-coloured, and quite fat, though not enlarged as usual. Lungs not tubercular.

The occurrence of perforation in a case of simple diarrhœa would hardly enter into our calculation in giving a prognosis.

Remarkable Closure of the External Orifice of the Ear.—Reported by Dr. CABOT. The subject of this affection is about twenty-three years old. When a young child, there was some trouble at the external orifice of the left ear, for which an application was made which caused great soreness, &c., after which the orifice of the ear became completely closed: there has been no power of hearing on that side, since; occasionally, there has been pain and uneasiness there. On examining the external ear, there is no appearance of any orifice, nor any cicatrix or mark, such as one might expect to find, indicating the original position of the orifice; the tragus was very low and inconspicuous, and the whole lower part of the concha was closed by a tissue whose surface was only slightly depressed, and which was of the same colour and appearance as the parts on either side. On making a sound, by clicking the finger-nails of the thumb and forefinger together, while in contact with the bone near the auditory canal, it was found that the nerve was in good condition, and, taking the tragus for a guide, Dr. C. passed a narrow and sharp knife-blade in the direction of the canal, as nearly as he could judge: after passing the knife in, to the depth of a quarter of an inch or a little more, the cavity of the external ear was reached; the instrument had penetrated the very lowest part; in other words, the tragus had been pulled very low down, as related to the passage. The incision was consequently enlarged by two cuts, one upward and a little forward, the other upward and a little backward; a tent of compressed sponge was then introduced. The hearing was very perfect as soon as the opening was made.

Extra-Uterine Fœtation.—Dr. PUTNAM reported the case of a patient whom he had visited with Dr. GEO. BARTLETT.

She was thirty years old; had been married ten years; had never been pregnant. Menstruation had been regular until the 15th of Nov. 1852. On the 1st of December, she had a sudden and somewhat copious discharge of blood from the vagina.

On the 1st of January, 1853, while making an effort to evacuate the bowels, she was seized with severe pain in the lower part of the abdomen. She fainted, and remained for five hours very cold, with feeble pulse.

March 17.—Has had more or less pain at every fecal evacuation since the first attack. Was quite comfortable yesterday till 7 P.M., when she had a loose dejection, after having taken castor-oil. Suddenly, was attacked with excruciating pain; extreme prostration; pulse at times imperceptible; surface of the body moist and cold; occasional vomiting. Brandy and laudanum were very freely administered, but she remained for fourteen hours in a hazardous condition.

19*th.*—Abdomen somewhat tender on pressure. A tumour detected just above the pubes. By the vagina, the tumour, apparently the uterus considerably developed, is felt within two inches of the external organs; firm, not fluctuating. Neck of uterus softer and shorter than natural. Very little tenderness to touch. Constant slight bloody discharge from the vagina. Urine scanty; occasionally a retention, requiring the use of the catheter. Areolæ brown; follicles developed; no uterine souffle.

29*th.*—Has had more or less pain up to this time. Has had salivation, with soreness of mouth and throat; frequent vomiting; is greatly reduced in flesh.

Bowels have been freely moved by castor-oil. Pulse 112. The tumour reaches nearly to the umbilicus, and is firm; not much tenderness on pressure.

Os uteri not dilatable; cervix considerably effaced. The tumour feels broader, and has almost a stony hardness.

April 16.—For some days past has had some appetite. Pulse 100; less feeble. Has had several dejections, without pain; but she continues to suffer a good deal from pain in the pelvis and abdomen.

The tumour, which was very firm and prominent above the pubes, is much less distinctly felt there, and, towards the umbilicus, it gives the idea of diminished hardness, or as if a layer of some soft substance had been interposed between the tumour and the parietes of the abdomen. Percussion dull over pubes; resonant on each side. The os uteri is dilatable and more soft; otherwise, the tumour, as felt by the vagina, is as hard and immovable as before.

May 2.—For a few days past, has been rapidly sinking; now, pulse 175. Respiration irregular, and thoracic surface of the abdomen hot; elsewhere, quite cold.

For the most part unconscious. Died, May 3.

Post-mortem examination, twenty-four hours after death. On laying open the abdomen, the tumour was seen to be imbedded in the convolutions of the intestine, its upper portion being a thin fluctuating sac; its lower pelvic portion solid. It was everywhere adherent; and on the first attempt at removal the sac was ruptured, and about twelve ounces of brown liquid poured out, together with semifluid coagula. The solid portion was then separated from the posterior surface of the pelvis, together with the uterus, which was bound down upon it in front; the rectum had been pushed aside and adhered on the left, and both ovaries upon its lower surface. Upon turning up its posterior face, the fœtus appeared lying in the sac, nearly enveloped in placenta. The uterus was four and a quarter inches in length, about an inch and a quarter longer than natural. Width at the fundus, two inches; at the neck, three quarters of an inch. No deciduous membrane existed. The fœtus was about four months; the placenta was larger than is usual at that period.

It was difficult to make a satisfactory *diagnosis*, or to suggest a probable explanation of the most prominent phenomena, viz. the four distinct attacks of sudden and overpowering pain in the abdomen; one attack following coitus, the other three being induced by the effort of defecation. The same is true of the physical signs. External examination showed, apparently, a single uniform tumour; while, by the vagina, a smooth firm surface was felt to extend from the os uteri, as a centre, towards the circumference of the pelvis, without furrow or line of demarcation between the uterus and the tumour, so closely were they moulded together.

Ordinarily, the rational and physical signs of extra-uterine fœtation resemble those of natural pregnancy, the differential diagnosis being founded chiefly on the presence of a distinct extra-uterine tumour, while the uterus undergoes certain modifications in size and structure. But this evidence may not be available, as the relative proportions may be inverted, the cyst small and out of reach, and the uterus of considerable size. In the present case, there was apparently no tumour independent of the uterus, no fluctuation or *ballottement*, and not even the imperfect *souffle* that sometimes accompanies accidental growths.

On the other hand, the salivation and sore mouth, the suppression of menstruation, the fulness of the mammæ and enlargement of the follicles favoured the supposition of pregnancy.

The autopsy fortunately cleared up the doubts, and showed the succession of phenomena to have been probably thus: The ovule, by some means, was lodged upon the peritoneum, or within the fold of the broad ligament. It there sent out its filaments, and established for itself a maintenance. No difficulty occurred until the parts were stretched and the union to some extent separated by the straining effort of defecation. One or more vessels were torn, blood effused, and then followed pain, faintness, and prostration, the symptoms of nervous shock. The effusion was probably limited by adhesions. She rallied, and was convalescent, when a repetition of the effort induced a second and more severe attack. Under the effect of these violent shocks, and of the continued local irritation, she gradually failed, and died within five months of conception.

Dr. Putnam added that he should have remarked that the membranes of the ovum were very distinct, and that the cyst appeared to consist partly of peritoneum, partly of false membrane. In a case of ventral pregnancy which he saw a few years since, the membranes were apparently of the same character. The patient lived till the completion of the full period of gestation.

The placenta, as before remarked, was attached to the region of the sacrum and to the rectum, and had attained an unusual size for the period of pregnancy. In some cases, it has been found upon the stomach, mesentery, &c., and it is a curious physiological fact that the peritoneal surface of any and every organ can supply the place of the uterine vascular apparatus—that, practically, the peritoneum can assume a function, for the discharge of which a peculiar set of organs is exclusively appropriated.

Male Organs of Generation imperfectly developed.—This case occurred in the practice of Dr. B. E. Cotting, of Roxbury. The child had been regarded as a female, and when it was about two weeks old Dr. C. was called to operate upon it. The glans penis only appeared externally, surrounded, except on its under surface, by a pretty well-developed prepuce. Beneath the glans was seen the orifice of the urethra, which might be mistaken for the entrance to a contracted vagina. Beneath the urethra was a well-marked raphé, and on each side of this a loose fold of flesh, the testicles being felt at the external ring. The child has recently died of pneumonia, at the age of about three months, and the specimen was sent to the Society.

May 23. *Fluid Congenital Cataract.*—Dr. Williams reported two operations on a boy about nine years of age, who had never enjoyed any vision. The cataracts were of very large size, so that even when the pupil was largely dilated by atropia, no clear space existed between the circumference of the lens and the margin of the pupil. When the capsules were incised by the instrument, their milky contents were at once discharged, not even a nucleus of harder lenticular substance being perceived. The capsules were extensively divided, and the next day both pupils were found almost entirely clear, only slight turbidity remaining at the bottom of the anterior chamber. No inflammation occurred, and he was able at once to commence learning to distinguish objects by his eyes instead of by touch.

Prolonged Dilatation of the Os Uteri; with Protrusion of the Membranes; unusual Delay of Delivery.—Dr. Storer read the account of the case, sent to him by Dr. C. Kollock, of Cheraw, S. C. The following is a condensed statement, taken from Dr. K.'s letter:—

On the 2d of November, 1852, Dr. Kollock was called to visit a young

woman, sixteen years and four months old, about seven months advanced in her first pregnancy, and threatened with miscarriage, having had pains for several hours previous to the accoucheur's visit. The pains, when first observed by Dr. K., were "strong and regular;" examination, *per vaginam*, detected "no dilatation whatever" of the os uteri. Anodynes, in large doses, with sinapisms to the back and to the abdomen, were ordered. No perceptible effect from the remedies for more than an hour, and during that space of time the pains increased much in violence, and became more frequent. When the remedies began to act, the patient became easy and disposed to sleep. A second vaginal examination detected the os uteri dilated to the size of a quarter dollar, the membranous bag protruding half an inch, and presentation of the head made out through the membranes. Patient now slept soundly for from four to five hours; awaking, she was entirely free from pain, and wished to leave her bed. Vaginal examination at this time found dilatation of the os uteri and the protruding membranes the same as at the previous trial. The patient was left in charge of a nurse, with directions to summon Dr. K. on any return of the pains.

November 4.—Visited patient, unsummoned. No pains; comfortable, except for constipation, referable to the anodyne remedies; a mild aperient directed. Examination, *per vaginam*, found parts and contents *ut antea*. Dr. K.'s visits were now made every few days, with the intention of closely watching for any change in the interesting state of things.

12*th.*—"Patient sitting up, at work; walks about the house; free from pain; appetite and digestion good; no difficulty in evacuating the bowels or bladder; os uteri and membranes unchanged."

22*d.*—"Patient not so comfortable; no uterine pains, but is troubled with constipation and a difficulty in voiding urine caused by pressure of the uterus on the neck of the bladder and on the lower bowels. Elevated uterus a little, and applied an 'abdominal supporter,' which had a happy effect; no change in os uteri and membranes."

December 2.—"Patient feels perfectly well in all respects. Vaginal examination detects no change."

11*th.*—"In all respects as on the 2d inst."

19*th.*—"Patient quite comfortable, with the exception of some difficulty in locomotion, which, strange to say, had not existed at any time previous; some little pain in the back." Os uteri and membranes same as on the 2d of November.

26*th.*—"Was called to patient about 4 o'clock P. M.; pains very slight; no increase in the dilatation of os uteri; membranes the same."

Dr. K. concluded to remain with his patient, believing her to be at her full time. In the course of an hour, the pains became strong and regular; the os uteri dilated rapidly. "In exactly two hours from the time of feeling the first pain, she was delivered of a fine healthy child." Placenta came away in thirty-five minutes from the expulsion of the infant.

"The mother has been perfectly well since the birth; the child is as healthy and fine-looking as the generality of children of its age."

Dr. K. adds his declaration that he is positive no change took place in the state of the os uteri from the 2d of November to the 26th of December, the day of birth; unless, indeed, there were changes between the examinations *per vaginam*, which he considers not at all probable. At each examination, Dr. K. was very careful to ascertain whether any change had taken place, and he could never detect the slightest. Reference is made by Dr. K. to Cazeaux, Ramsbotham, Dewees, and Lee, as affording him "no satisfactory solution of

the problem" which, he considers, the case presents. "Dr. Hodge, of Philadelphia," adds Dr. K., "speaks of *atony of the uterine fibres produced by anodynes;* but why (if such be the explanation), should it continue so long, and then action recommence just at the proper time?"

[Dr. MACKINTOSH, quoted in BLUNDELL'S *Principles and Practice of Midwifery* (English edition, p. 104), says: "The rule, in practice, is not to leave the patient after the os uteri is dilated to about the size of a crown piece; but I have seen it as open as that a fortnight before the delivery, and once at the seventh month of pregnancy, though the child was carried the full time. In this case, even a little of the liquor amnii was discharged. At the eighth month, I have found the os uteri open to the size of half a crown, though the labours did not come on till the full time. When, in addition to the os uteri being thus much dilated, the pains are full and strong, the patient must not be left."]—*Secretary.*

Incomplete Fracture of the Tibia and Fibula.—Dr. GRAY related the case, which occurred in the person of a child, six years old, who was standing on an iron rail-fence, and, in trying to jump down, was caught by the heel and left hanging in that position: he was seen by Dr. G. in fifteen minutes after the accident; the leg was much swollen; no crepitus heard; fomentations were applied, and the limb could afterwards be moved by the patient. It was supposed that there was effusion into the soft parts; subsequently, there was visible deformity; splints were applied for ten days, when the leg was found to be nearly straight; there is now only a slight unevenness of the tibia perceptible.

Dr. Gray referred to the Appendix to the American edition of Sir A. Cooper's work on Fractures and Dislocations, for remarks upon similar cases, under the title "Incomplete Fracture."

Dr. JACKSON mentioned a case of partial fracture of the rib; the outer table being broken, the inner, not; also one case wherein the fracture was *vice versa;* the same thing has been observed in the clavicle.

Dr. COALE spoke of the recuperative power of nature in setting these bent bones straight; instancing a case of a boy's arm, thus affected, and which the boy's father would not allow to be set or touched by Dr. C.; it, nevertheless, came to be perfectly straight.

Dr. Gray suggested that manipulation by the father's hands might, in this instance, have brought the limb straight, and then the bone was probably firm enough to keep it in the right position.

Dr. PARKMAN mentioned a similar accident occurring to a stout boy of seventeen years, who was carried round a revolving cylinder; the bones of the forearm were bent at an angle of 45°, and could not be straightened by bending them, conversely, over the knee; a splint partially remedied the difficulty.

Dr. C. E. WARE related a case, observed by him in a child of four years; nature did not remedy the deformity; the bones remained curved.

Dr. COALE thought that the muscles, at that age, might have sufficient power to retain the bones in a bent position.

June 13. *Operation for Cataract on a Patient aged eighty-eight.*—Dr. WILLIAMS mentioned an operation for soft capsulo-lenticular cataract on one of the oldest citizens of Boston, a gentleman upwards of eighty-eight years of age. He discovered the existence of cataract in his left eye, more than twenty years since; finding, on waking one morning, that he could not see

with this eye. The right eye continued useful till a short time since; but, within a few weeks, cataract has formed and vision has been lost.

An operation was performed on the left eye about the middle of March. As the lens did not offer sufficient resistance to the needle to admit of its being displaced, it was broken up, and the opaque portions of the capsule were removed, as much as possible, from the field of the pupil. No inflammation followed; his usual habits were so little interfered with that he was able to smoke his cigar every day after the operation, and the fragments of the lens rapidly disappeared by solution in the aqueous humour.

A secondary operation was performed two months after the first, for the removal of a small portion of the posterior capsule which prevented distinct vision. Six days from this time he could see, with the aid of glasses, as well as ever, being able to read the ship-news, or the finest print of a newspaper, with perfect readiness.

The rapidity with which the lens was absorbed, at the advanced age of the patient, and the perfect result, notwithstanding the long disuse of the retina, render the case interesting.

Singular reputed Origin of Gonorrhœa.—Dr. DURKEE reported a case of gonorrhœa, principally on account of the reputed manner of its communication to the patient, who was a young married man, whom he had attended for a cutaneous affection during the past winter.

On the 31st of March, the patient complained of a discharge from the penis, of slight scalding on passing urine, and of an itching sensation at intervals, which had continued for the twenty-four previous hours.

Upon examination, Dr. D. stated to the patient that the discharge and the other symptoms connected with it were such as persons usually experience after intercourse with females of bad character; in other words, that he regarded the case as one of gonorrhœa. The patient replied that he did not see how this could be; his wife was in perfect health, and he had never had intercourse with any other female. Dr. D. adhered to his opinion, and told the patient that he should prescribe as in any other case of gonorrhœa, and await the result; and added that physicians did not recognize but one way in which the disease could be communicated. The patient stated that a few hours before he discovered the discharge from the urethra, he had sexual intercourse with his wife: in about a week after this, she also had the same trouble, thus proving that the disease was gonorrhœa, and it was treated accordingly.

At the second visit, the man stated that he had made known his condition to his brother, who was somewhat younger than himself, and had been troubled with gonorrhœa for some time, and that on the evening of Tuesday, the 22d of March, he attended a ball, on which occasion he wore the elder brother's pantaloons, which he took from a closet without permission, and, returning late at night, hung them up again in their place. On the following Thursday morning, two days after the ball, the elder brother put on the infected pantaloons, and thus he explained the origin of his urethral discharge. The question is as to the truthfulness of this; and whether the laws which govern the action of animal matter, so far as we know them, are positively, and without any possible exception, entirely opposed to the explanation given by the patient?

Nothing is more common than for a man, with the disease in question, to deny having been exposed so as to take it in the usual way; it is almost a by-word among the profession, that such a denial is a strong evidence which we bring against the individual in forming our diagnosis; in this instance,

however, Dr. D. was inclined to receive the statement of the patient; and he presented the case in order to elicit the opinions of the members of the Society as to the communicability of the gonorrhœal virus in any other way than the ordinary mode; he, therefore, requested to know their experience in this matter.

Dr. HOMANS remarked that several years ago he had a similar case, and he had reason to believe that the disease was contracted without sexual intercourse.

Tubercular Meningitis complicated by intercurrent Measles.—Dr. STORER reported the case. A little girl, five years of age, on the 27th of May last, fell from a chair, striking the side of her head against the foot of a table. She made so little complaint that her mother did not deem it necessary to apply for medical advice until the 30th of May, when Dr. S. was called. He found her quite stupid, with an accelerated pulse; hot skin; constant motion of the head, and of the hands to the head; intolerance of light, &c. &c. The symptoms became gradually aggravated until the 8th of June, when a well-marked eruption of the measles appeared. Upon their presence, the child appeared less stupid, somewhat conscious, could more readily distinguish those about her, and the family were much elated at her revival. She appeared better during this and the succeeding day, but relapsed and died on the 9th inst.

At the *post-mortem* examination, which was performed by Dr. Charles D. Homans, the vessels of the dura mater were found distended with liquid, dark-coloured blood; those of the pia mater also were much congested; considerable lymph was noticed along the course of the vessels, most marked on the left side of the anterior lobe of the cerebrum. Substance of the brain was also much congested.

Ventricles considerably distended with clear serum. At the base of the brain much lymph existed about the pons varolii. In the fissure of Sylvius, on each side, the pia mater presented a sanded appearance, being sprinkled with whitish minute granulations.

In the centre of the left lobe of the cerebellum was a tuberculous mass, the size of a pea, yellowish in its centre, easily enucleated, and encircled by a border of inflamed cerebral substance.

As there was no tuberculous predisposition in this case, Dr. Storer thought that the rapidity with which the tubercles seemed to be developed, strongly favoured the theory of their being dependent upon inflammation.

Dr. CHARLES E. WARE alluded to a case of strongly marked cerebral symptoms simulating meningitis in a child five years old, where they appeared to depend upon a slight erythematous affection of the face, imperfectly developing itself. There was great restlessness, high fever, extreme dilatation of the pupils and insensibility, with blindness to light; incessant rolling of the head from one side to the other. These symptoms lasting five or six days, and subsiding on the appearance of a full eruption, from croton oil, on the back of the neck.

Dr. STEDMAN reported the following case: On the 4th of June, he was called on by Coroner Smith to visit a child, a year old, who had just died under peculiar circumstances.

It appeared that the infant had been left asleep on the bed by its parents; that while they were in an adjoining room, it had crawled to the edge of the

bed, near which, on a small table, stood a pint crockery bowl. It is supposed that in the act of falling the child reached out its arm and struck the bowl to the floor, and then fell upon the bowl; a triangular piece of which, resting in a vertical position on its semicircular edge, entered the cavity of the chest on the left side, above and parallel to the clavicle, where a wound was found of about an inch and a quarter in length, dividing important bloodvessels; the hemorrhage from which caused the immediate death of the child.

Morbid Growth on Sclerotic.—Reported by Dr. BETHUNE. Julia ——, aged 15, four years ago first observed a small dark point at site of present disease.

On examination, half way between inner angle of left eye and margin of the cornea is seen a circular dark-brown spot in the substance of the sclerotic, of the size of the head of a large pin, and having the appearance of enamel, imbedded, but not raised, above the surface. It has very slowly increased from the time it was first perceived, and, after unusual exertion of the eye, she is sensible of slight pain at this point.

Nævus over the Knee-Joint.—Reported by Dr. J. MASON WARREN. This case Dr. W. related on account of its peculiarity. The nævus was of a black colour, situated over the inner part of the knee-joint below the patella. Until within two years, the tumour had been about the size of a dollar, but since then, a supplementary tumour has appeared underneath the original one, not soft, as is usually seen in these cases, but quite hard, and extending for some distance into the adjacent cellular membrane and apparently attaching itself to the synovial capsule. The whole tumour had also become extremely sensitive, so that even the contact of his clothes caused much suffering, and he was quite disabled from attending to business. It was impossible to make any satisfactory examination, the patient dreaded so much the slightest manipulations. He was dieted, and kept in the horizontal position for a few days, an evaporating wash being externally applied. This had the effect to relieve the tenderness in a slight degree. The whole tumour was now congealed by means of a freezing mixture of pounded ice and salt, then very freely cut up by a subcutaneous section of the hard basal tumour. The operation was entirely painless, and no unpleasant symptoms ensued. The vicinity of the knee-joint of course precluded any operation for the excision of the tumour. The above subcutaneous section was, therefore, once or twice repeated, and resulted in the absorption of a large part of the tumour, and diminished the sensibility so that it could be handled without suffering. He left the Hospital at his own request; otherwise, by a repetition of the above means, the complete destruction of the tumour would have been effected. Dr. W. showed a cast of the knee-joint, made by Mr. now Dr. Lane, of the Hospital, with the tumour coloured according to nature.

Dr. W. also showed another nævus in an ulcerated state, which he had lately removed. It was situated on the upper part of the calf of the leg. The patient was twenty-six years of age. Two years ago, the tumour had been injured, which was followed by much hemorrhage. In spite of treatment it had since remained in an ulcerated state. The skin around it was much inflamed, and, at times, very painful. It was removed by two elliptical incisions without any great bleeding.

Impalement upon a Pitchfork-handle, entering per Vaginam: Recovery.—Dr. SARGENT, of Worcester, reported the case, which had occurred in his

practice nearly two years ago. A lady, of about 37 years of age, who had borne several children, the last about three years previous to the injury about to be mentioned, and whose last menstrual period had been about a week before, her bowels also being in good lax condition, in sliding down from a hayloft, impaled herself upon the handle of a pitchfork, which passed in at her vagina to the length of twenty-two inches, when her feet struck the ground. The handle was immediately withdrawn, the patient carried into the house, and Dr. S. sent for. He found the patient, half an hour after the injury, lying on her back, with the thighs flexed, and the skin cool, pale, and moist (as if from fright), and the pulse not much accelerated. There was no external injury, and no physical evidence of effusion into abdomen or thorax, and no urine nor feces on the garments, nor about the person, nor on the field of the accident, nor on the handle of the fork. There was some blood flowing from vagina. Patient passed water during the visit, and it was not stained with blood. She complained most of pain in the left thorax, on a line with the scapula. Dr. S. saw the handle of the fork, which was rounded, a little larger at the end than otherwhere, perfectly smooth, two inches in diameter, and showed distinctly the stain of blood up to an abrupt line, twenty-two inches from the end.

Dr. S. theorized, in this case, that the instrument must have perforated the vagina at its upper part to the left, and gone between the uterus and rectum. [If it had gone to the right, it would have perforated the cæcum.] The form of the instrument would make it much easier for it to pass between than to perforate organs, and Dr. S. supposed that it passed in front of the kidney, behind the spleen and between the diaphragm and false ribs, peeling up the costal pleura till it reached the scaleni muscles. The subsequent history of the case, which showed a fracture of the first rib, while, also, there was at no time any effusion into the chest, proved this diagnosis correct. Supposing that the greatest safety of the patient was in what might be called *forced rest*, Dr. S. gave her one grain of morphia (by estimate), and bound her chest firmly with a broad bandage of new flannel, placing a towel, wet in cold water, between this and the skin. The morphia was repeated in an hour, and one-third of a grain three hours after. Patient passed water repeatedly in first twenty-four hours, without trouble and without blood, and passed coagula from the vagina. The day following, there was emphysema above left clavicle; and, the day following, crepitus in left axilla high up, as if from fracture of bone. There was at no time any evidence of pneumonia or pleurisy, though there was deficiency of respiratory murmur in left chest from the pain in its expansion, the percussion remaining good.

The pulse stood at 120 for several days, and the opiates were continued about as long.

The injury was inflicted the 7th of August, 1851, and Dr. S. was in daily attendance for nine days; and, occasionally, afterwards, for three weeks. The recovery was entirely favourable, the patient being left only with an ill-united fracture of the first rib, over which there was some painful swelling for several weeks, which ultimately subsided, leaving an osseous prominence in the supra-clavicular region, in intimate relations with the scaleni muscles.

Yellow Vision in Icterus.—Case reported by Dr. LYMAN. This symptom occurred in a married female, æt. 35. Has had duodenal dyspepsia for six months. Patient first seen May 24. Complained of severe epigastric pain, nausea, constipation, headache, and general *malaise*. Appeared, at that time, very slightly jaundiced. Coloration gradually deepened until 30th, at which

time the whole surface was of an intense yellow, urine highly coloured, feces very pale, no cerebral symptoms. Patient complained, for the first time, that the linen bedclothes looked yellow, and that everything in sight appeared either yellow or covered with bright yellow spots. A close examination revealed numerous yellow patches, of the size of pins' heads, upon the irides, and a rim, not more than half a line in width, of enlarged vessels encroaching on the circumference of the cornea. Aqueous humour *apparently* clear. This state of the vision continued between two and three days, and then rapidly disappeared.

It is well known that the occurrence of this symptom has been denied by Mercurialis, Haller, Heberden (who calls it a poetical fiction), and Chapman. [*Vide* Copland, article Jaundice.] Frank found it present in five only out of one thousand cases. Neither Andral, Grisolle, Desmarres, nor Wharton Jones, allude to it. Mason Good, however (vol. i. 203), describes it as having occurred in his own person, and his American editor cites several cases on the authority of Hoffman, Dr. James, Alibert, Dr. Pemberton, and Dr. Elliotson. Some valuable pathological remarks on this subject, by the late Dr. Graves, of Dublin, may be found in the first volume of *Stokes and Bell*, p. 522. Considering the extent to which all the secretions [excepting the mammary] are tinged in jaundice, the only wonder would seem to be that the phenomenon should not be of more common occurrence.

Anencephalous Fœtus.—Dr. WILLIAMS exhibited a female anencephalous fœtus of about seven months, presenting the usual characteristics of this imperfect development. The patient was a primipara. The malformation was attributed, *by the friends*, to her having witnessed copious secondary hemorrhage after operations upon a young woman for the removal of erectile tumours of the ears.

Foreign Substance in Cornea during one Year; Anterior Chamber penetrated; Aqueous Humour discharged, and Surface of Iris wounded; Recovery.—Reported by Dr. BETHUNE. Samuel L., carriage-maker, one year ago received a piece of steel in left cornea, which has remained there ever since. The eye has been weak, but he has been able to work from time to time.

On examination, a small cretaceous mass covers the ulcer of cornea. On removing this, the fragment of steel is seen lying perpendicularly nearly through the whole thickness of the cornea, near lower edge of pupil. It was removed with considerable difficulty with a curved needle, but in accomplishing this, the anterior chamber was penetrated and the aqueous humour discharged. The surface of the iris was touched by the projecting fragment and slight bleeding followed. The after-treatment was simply a saline cathartic, cold applications, strict rest and diet, with the daily application of stramonium.

Two days after his admission to the Infirmary, he was discharged at his own request. He declared the sight to be as good as it ever was. The anterior chamber had not yet entirely recovered its normal size, and a small opacity remained around wound of cornea. Pupil partially dilated by stramonium.

June 27.—Pericarditis, Hypertrophy and Dilatation of the Heart; Pleurisy; Death from a Copious Effusion into the Right Pleural Cavity.—Reported by Dr. G. C. SHATTUCK, JR. A delicate youth, æt. 17 years, entered the Massachusetts Hospital, March 28, 1853. He had been suffering from cough, shortness of breath, weakness, pain of the left side for six weeks, and had taken

codliver oil. The heart was found beating at the scrobiculus cordis; there was a marked prominence of the cartilages of the sixth and seventh left ribs. The left thorax measured one foot three inches, the right, one foot four inches. Strong impulse of heart, flatness over fourth, fifth, sixth, and seventh ribs, and from middle of sternum to the back, which was flat below the spine of the scapula. Bronchial respiration and ægophony in the same region. Both sounds of the heart distinct at the base, replaced at the apex by a strong souffle. Pulse 82, quick, regular. He reported his general health as good, no long illness; an occasional stiffness of the knees the principal infirmity. He was blistered and put upon a course of alteratives, diaphoretics, and anodynes. There was improvement generally and locally. The respiration was heard at the point of the right scapula on the 4th April; and still ægophony on the 6th. He was very reluctant to keep his bed, and on the 11th, after exposure to cold, he was attacked in the night by pain in the left side, and increased dyspnœa. The physical signs of increased effusion were present. On the 13th, the heart was still found beating at the scrobiculus cordis. There was a loud smooth murmur with the first sound over the lower left chest, but over the base of the heart, the murmur followed the second sound. On May 4th, the following sound of the physical signs was made—one distinct sound followed by a loud and smooth murmur; pulse 94. On the 14th, he had another attack of pain and distress after exposure to cold; dulness of bronchial respiration over left lower back was noted on the 16th. On the 18th, flatness at point of left scapula. On the 23d, a crepitant rale was heard distinctly over the lower left back, and there were one or two pneumonic sputa. These disappeared with general improvement. On the 1st of June, he complained of swelling of the feet. He was disposed to sit up and to walk about as much as possible. June 6th, another attack; flatness, bronchial respiration, ægophony over lower right back. This did not yield to blisters; diaphoretics and alteratives exhibited as far as the strength of the patient admitted. There was still dulness and feeble respiration over the left lower back; inclination to diarrhœa. On the 24th, he could not lie down on account of the dyspnœa, suddenly aggravated, and he died on the 25th.

At the autopsy, the right thorax was filled with a straw-coloured serum, the lung somewhat compressed, but easily distended by air; free from adhesions. Slight adhesions of left lung; splenification of lower lobe. Hypertrophy and dilatation of heart quite marked. Several layers of false membrane between pericardium and heart. Insufficiency of aortic valves, which were thickened, smooth, and pale. Auriculo-ventricular valves not remarkable. Redness of lining membrane of right auricle. The organs in the abdominal cavity were examined. The gastro-intestinal mucous membrane not remarkable for colour or consistence.

The murmur in this case must be attributed to the insufficiency of the aortic valves, caused not so much by disease of their lining membrane, as by the abnormal situation and hypertrophy of the heart. The patient was killed by the rapid effusion into the right pleural cavity, but the pericarditis and pleurisy were the assigned diseases, to the effects of which, aggravated by exposure to cold, the subsequent phenomena in the case must be referred. The pulse was always quick and regular, the cough was never a troublesome symptom. He had two attacks of pleurisy and one of pneumonia whilst in the hospital. The effusion into the right pleural cavity, which proved fatal, was not accompanied with signs of inflammation. The patient's life might have been saved, for the time, by puncturing the thorax, but it could hardly have been much prolonged.

Hemiplegia: Rapid Recovery.—Dr. S. D. TOWNSEND related the case: A gentleman, 60 years of age, a large eater, but abstinent, entirely, in regard to liquors, was suddenly seized with hemiplegic paralysis of the right side, while walking on the street; he was observed to drag his right leg, and finally fell at the door of his house; distinct articulation was entirely suspended through the night. Six leeches were applied to the left temple, and an ounce of salts administered the same evening. He could stand and walk the next day, and wished to be driven out in a carriage. On the third day there was no appearance of paralysis remaining.

July 11. *Membranous Croup: Recovery.*—Dr. STORER read the following account of the case, which was prepared by Dr. WM. READ, of Boston. "The following record of a case of membranous croup is offered to the Society, not so much from any idea that the course pursued presents any new or peculiar features, as from a feeling that the profession cannot fail to be interested in any mode of treatment which has proved successful in this usually intractable disease.

June 29, 1853.—I was called to see a child four years and three months old, of dark complexion and robust constitution, who had been unwell since the preceding Friday with what its parents called "a worm turn." From the answers I obtained, I was led to suppose that the case was one of irritation in some portion of the alimentary canal, and accordingly prescribed the following: ℞. Hyd. sub. mur. grs. vj; Jalap. pulv. grs. viij. M. Ft. chart.

30*th*. He was attacked with great dyspnœa, and unmistakable croupy symptoms developed themselves. With the greatest difficulty I obtained a sight of the fauces, which appeared covered with a coating of lymph over their whole aspect, with a few spots of ulceration here and there. Voice entirely gone. A solution of argent. nit. of the strength of forty grains to the ounce of water was immediately applied by means of the sponge probang, to the whole of the mucous membrane visible, and also as far down the trachea as it could be carried. The withdrawal of the sponge brought up on it a piece of white substance about three-quarters of an inch in length and half an inch in breadth. It was white, of very firm texture, and could hardly be distinguished from a similar portion taken from the coats of one of the large arteries.

For an alterative he was ordered one grain of hyd. sub. mur. combined with one and a half grains of Dover's powder every three hours, and the following mixture in doses of a teaspoonful as often as the symptoms seemed to indicate vomiting. ℞. Tinct. lobeliæ; vin. ant. tart. āā ℥i; tinct. sanguin can. ℥ss. M. Also, as an external application, the following liniment: ℞. Ol. olivæ ℥i; liq. potass. ℥ii; ung. hyd. ℥i. M. To have the room filled with the vapour of boiling water.

July 1, 8 A. M.—Much the same. Breathing no better. During the night had frequent attacks of dyspnœa. Passed the sponge, charged with a solution of argent. nit. Continue other treatment.

1 P. M. Met Dr. Storer in consultation, who advised a thorough trial of the treatment begun. By his consent, Dr. Bartlett's apparatus for producing vapour in a sick room was procured and put into operation.

7 P. M. No change in patient. Applied sponge to throat.

2*d*. 6½ A. M. Found patient about the same. Dyspnœa not increased. The steam apparatus works well, and the air of the chamber is fully charged with vapour. During the night, patient vomited freely and brought up a

considerable quantity of the membrane in shreds. After the application of the sponge, the cough appeared much looser. Continue other treatment.

12 M. Respiration easier. Cough looser. Cannot yet articulate audibly. Speaks in a shrill whistling whisper. May take the powders once in six hours instead of every three hours.

8 P. M. Applied the sponge. Respiration the same as at last record.

3*d*. 6½ A. M. Patient has passed a comfortable night. Now, there is apparently no difficulty of respiration, but the voice has not returned. Fauces still covered in spots with membrane and patches of ulceration, while the colour of the mucous coat is deeper than natural. Applied the sponge. Continue other treatment.

1 P. M. Respiration good. Is fully under the opiate influence of the powders. Has expectorated, since last visit, a considerable quantity of very tenacious muco-purulent substance, in which are to be seen comminuted shreds of membranous matter. Cough loose. No dejection since July 1. May have a dose of castor-oil.

4*th*. 6½ A. M. Has passed the night free from dyspnœa. No dejection from medicine. Gums show that mercurialization has taken effect. Omit powders until night. Throat almost free from membranous deposit. Two ulcers only remain, at the edges of the uvula. Applied the sponge. Repeat cathartic.

5½ P. M. Remains comfortable. No appearance of lymph in throat. Mucous membrane has almost recovered its natural hue. Tongue begins to clean. Circi is a little stronger. May have powders through the night. Appetite begins to return. Dr. Phipps present at this visit. Mucous râle can be heard over whole extent of both back portions of the lung.

5*th*. 7 A. M. Still remains comfortable. No return of dyspnœa. Throat clear from lymph. In the left lung the mucous râle is still to be heard; in the right it is not so evident. No roughness beyond what is natural can be detected in the region of the larynx. No dejection yet.

6*th*. Condition still improving. Tongue nearly clean. Ulceration on uvula fast disappearing. Membrane of the throat looks healthy, and of a natural colour. May have senna tea enough to produce free catharsis.

7*th*. Senna operated well. Patient is apparently well. Voice pretty strong, although it has yet a roughness and a tone that seems to be peculiar to the disease.

Ceased attendance.

Throughout the whole time of treatment, the pulse has maintained its natural rate, and the skin has been moist and free from fever.

The above is submitted with the single remark that the influence of the vapour upon the respiratory function was evident and highly beneficial. As long as the air of the room remained fully charged with steam, the breathing was comparatively easy and the cough sounded loose. Whenever the amount of moisture grew small from the subsidence of the heat under the boiler, the opposite condition was immediately noticed. Indeed, this was so evident to those who had the charge of the little patient, that no precaution was needed, on my own part, to insure an ample supply during the course of the treatment.

Tubercular Disease: Crepitous Râle at the Base of the Lungs.—Dr. Bowditch alluded to two cases of evidently tubercular disease, recently seen by him, and in which he noticed the rare phenomenon of an explosion of fine crepitous râle towards the base of the lung. He had seen a few such

cases during the past ten years. Sometimes the râle disappears after a few weeks. Generally, however, it lasts without change for several weeks, or even months; and, according to Dr. B.'s experience, cavities gradually form in these parts. At times, this râle is the sole physical sign. At others, it is united with the more common ones at the apex. Often it is very local, occupying a space not larger than the palm of the hand. It may, on the contrary, occupy the whole of the lower lobe. It is exactly similar in its characters to the crepitus of pneumonia, and when existing generally in a lobe, it may deceive the practitioner, making him think that acute inflammation actually exists. The rational signs, the non-prostration of the patient, absence of fever and of characteristic sputa, will, however, enable him to decide. In the earlier cases seen by Dr. B. he was thus deceived, and applied in vain the usual antiphlogistic remedies—leeches, blisters, mercurials—without the least change in the sound, or effect on the progress of the complaint.

Frequency of Abnormal Presentations in the same Individual.—Dr. STORER remarked that several years since he reported to the Society the case of a patient, who, in five accouchements, had had three arm-presentations. He had met with no case equally striking until since the last meeting. A few days since, he attended a woman, in her seventh labour, with an arm-presentation. She had previously had two arm-presentations, two foot-presentations, and two presentations of the head.

Dr. S. remarked that the subject had been spoken of by writers upon midwifery, and accounted for by some supposed peculiarity of the pelvis.

Staphyloraphy.—Dr. J. MASON WARREN. Dr. W. said that during the last few months he had operated on four cases of fissure of the soft and hard palate, in which the separation of the bone was very wide, and the soft parts were, with much difficulty, made to reach across the gap. After the union of the soft palate, the hard palate, alveolar processes, and teeth had been supplied artificially, and the voice, in some of these cases, was as much improved as in some instances after a perfect union of a simple fissure in the soft palate. He had found that, if sufficient union was effected low down, so as to restore the arch of the palate, the adaptation of an obturator to the remainder of the opening was efficient in improving the speech; so that no cases need be rejected on account of the width of the fissure if the smallest chance existed of bringing the most movable portion of the soft palate in contact. Dr. Dixon, dentist, in Winter Street, had very skilfully arranged the artificial palate and teeth. A small bit of vulcanized India-rubber was fixed to the back part of the plate where it comes in contact with the soft palate, the better to prevent the passage of air.

Fissure of the Cerebrum by Contre-Coup.—The specimen was exhibited to the Society by Dr. CABOT, who saw the patient in consultation with Dr. E. A. W. HARLOW, who sent the following account of his attendance:—

He was called to the patient on Tuesday night, July 5, at 10 o'clock, about thirty hours after the reception of the injury received. Two or three questions addressed to him by Dr. H. were readily answered; subsequently there was disinclination to reply. Dr. H. learned that the patient had been kicked in the abdomen, and afterwards knocked down, on the 4th of July. When he fell, the back of his head struck the pavement; he shrank from pressure made over the stomach; no convulsion observed and no paralysis evi-

dent; both pupils immediately contracted, without appearance of pain, when a light was held near to them; pulse 56, moderately full, rather feeble.

On Thursday morning, July 7, patient appeared perfectly rational, and answered Dr. H.'s questions without hesitation. On inquiry, slight indistinctness of sight, and some difficulty in hearing were complained of; pulse 48.

Friday, 8th, indisposed to answer questions; pulse 56.

Saturday evening, 9th, there was a change in the symptoms; it was reported that the patient had passed a better night than he had since the injury, but that in the course of the forenoon he became more delirious than previously; the pupils did not contract under the influence of light; the skin was hot; pulse 120, but not hard; his bedroom was excessively hot.

Sunday morning, 10th, Dr. CABOT saw him in consultation; at 12 o'clock, M., death occurred.

Treatment.—The administration of cathartics; the application of cold to the head; the occasional use of ammonia when great debility was manifested; and, on one occasion, an opiate, to procure sleep.

The wife of the deceased states that he vomited everything taken into his stomach for the first two or three days, and then the vomiting ceased; that he often complained of pain in the head; that he was delirious almost all the time, and that the neighbours said he had *the horrors;* that he got little or no sleep; and that it was with great difficulty he could be prevailed upon to take any nourishment.

Dr. CABOT added the following account of the state of the patient at the time of his visit, and gave the results of the *post-mortem* examination, which was made by him:—

When first seen by Dr. C., the patient was lying on his back, breathing very rapidly (panting), the respiration accompanied by a coarse crepitous râle, so loud as to be heard across the room; the face was livid; the pupils of the eyes dilated, not influenced by light; pulse very quick, and small, and feeble; hands cold; when questioned a response would sometimes be given by pressure of the hand. Death occurred four hours after this visit.

Post-mortem examination, twenty-four hours after death. Externally, well-developed; moderately fat; a slight cut on the upper lip; a bruised spot an inch in diameter over right occipital protuberance, extending through the scalp and slightly colouring the pericranium; skull rather thin. On removing the calvarium, the dura mater was seen to be of an unusually dark purple colour, owing, apparently, to the distended vessels beneath. On removing the dura mater, the external vessels were seen to be very much distended, giving an exceedingly dark appearance to the whole surface of the brain; on top, and a little in front of the centre of the left hemisphere, a dark purple spot, of the size of a dime, was observed, on cutting into which about ʒi of dark fluid blood escaped from a fissure extending into the substance of the brain, from the walls of which a reddish-brown colour extended to the depth of one-fourth of an inch, and the part thus coloured and the surrounding part to some distance was found to be very decidedly softened. Under the arachnoid following the lines between the convolution, cloudy serum was seen, in abundance. Lymph was found over the superior and inferior surfaces of the cerebellum. Red points were more than usually apparent throughout the substance of the brain. There was no fracture of the skull.

The point of particular interest in this case is that the fissure was found at a point almost precisely opposite to that at which the blow was received, and without fracture of the skull. Authors, very generally, admit the possibility of this, though none, that Dr. C. has consulted, state the fact to have occurred;

they all mention fracture of the skull in almost all parts of its circumference, as not very infrequent from *contre-coup*.

Professor R. D. MUSSEY, who was present at the meeting, related a similar case; the only one of the kind he had ever met with.

Calculi passed per Urethram.—Dr. BACON exhibited three small calculi passed with the urine by different male patients. Two are of an oblong oval shape, and about one-third of an inch in length. They are studded with brilliant crystals, producing a very rough surface, and occasioned great pain during their passage through the urethra. Their colour is a pale buff. Notwithstanding the similar appearance of these two calculi, their chemical composition is entirely different. One is composed of triple phosphate, with a little phosphate of lime and organic matter. The other consists of oxalate of lime, with a very small proportion of phosphate of lime and organic matter. The crystals which stud its surface are nearly pure oxalate of lime. Under a magnifier, their form appears to be octohedral, like the microscopic crystals of this salt which so frequently occur in urinary deposits. This is the fourth instance in which Dr. B. has examined crystalline calculi of oxalate of lime.

The third calculus exhibited is rather smaller, oval in form, and of a dark brown colour. Its surface is covered with minute tubercles, presenting, on a small scale, the usual appearances of a mulberry calculus, with which it agrees in chemical composition, containing the same ingredients as the second one described above.

Necrosis of Humerus—Amputation. By Dr. J. MASON WARREN.—The patient was 21 years old. Three years ago, after getting wet, he was seized with an inflammation in the vicinity of the elbow-joint, and suppuration ensued. After a time bone was discharged. Other parts of the arm were subquently attacked, and much bone removed. In the course of the disease the shoulder-joint and the elbow-joint became anchylosed, leaving the hand fixed in strong rotation over the pubes, only a slight lateral action being permitted by the movement of the scapula on the body. Very large sequestra still remained, and from the position of the hand and loss of use of the joints, it was thought that even if all the dead bone was removed, the limb would be left useless. Amputation was therefore decided on. Some difficulty was experienced in fixing on the point for removal. If the section was made above the apertures in the head of the humerus, it would be difficult to get a flap from the inside on account of the size of the new bone, which was forced close upon the ribs, obliterating, as it were, the axilla. On consultation, it was decided to amputate a few inches below the shoulder, removing the sequestrum afterwards. This was done, and a large bit of dead bone forcibly extracted. The axillary artery, from the confined position of the wound, was secured with some difficulty, as had been apprehended.

The patient left the Hospital about four weeks after the operation, much improved in health, and the wound in a healthy condition. Previously to leaving, another piece of bone was removed from the large, box-like cavity which formed the head of the humerus.

July 25. *Croup in the Adult.*—Dr. JACKSON exhibited the specimen, taken from a woman whom he had examined with Dr. H. J. Bigelow, a few days ago. She was 27 years of age; had had sore throat, to which she was subject, three or four weeks before death, and never got quite over it. On Wednesday, the 20th inst., she passed the evening out, in company, and thought she

took cold. On Thursday, there was marked soreness of throat. On Friday, and until death, aphonia and dysphagia; this last being so urgent that she was able to take very little food, and felt, in consequence, very weak; nursing, at the time, a child nine months old. Her husband saw something white in the throat on Saturday; some heat of skin on Monday; was fully dressed on Saturday, but not down stairs after Friday. On Monday morning took tinct. of lobelia from a nurse, and threw off considerable mucus, with much relief to throat; no farther vomiting; the breathing, however, seems never to have been urgently oppressed, nor was there much cough. Slight incoherence on Monday evening, and, about the middle of the night, having nursed her child only half an hour before, she sank without any marked distress, and died.

On dissection, a thick and continuous tube of lymph was found to extend from the larynx, downwards, into the secondary and some of the still smaller bronchiæ; under surface of epiglottis mostly covered with the same, with scattered patches in the pharynx, and upon the upper surface of the soft palate. Two portions of lymph, of considerable size, were found lying loose in the pharynx, and it was thought that these may have obstructed the glottis, and explained the suddenness of the death at last. With the lymph there was a considerable quantity of viscid mucus, as usual in the croup of children. Lungs healthy; no other disease.

Dr. J. remarked upon this as only the second case of croup in the adult that had occurred here, so far as he was aware; the other case being that of the Hon. Mr. Chapman, late Mayor of the city, and in whom the disease was complicated with erysipelas.

Strangulation of the Intestine by the Appendix Cœci.—The case occurred in the practice of Dr. H. M. Lincoln, of Westminster; and the specimen, which was exhibited, was brought from the country by Mr. J. L. White, one of the house-physicians of the hospital. Mr. W. also sent the following history of the case:—

The patient was a female, æt. about 40. About two months before her death she was thrown from a carriage, and injured so severely as to be confined to bed for four or five weeks. About six weeks from the time of the accident, and when she was quite feeble, she rode between two and three miles over a rough road, and in a wagon, the body of which set directly upon the axletree. At the time, she complained much. After returning from her ride, she again took her bed, from which she never arose. The next day, she was visited by Dr. Lincoln, who found her delirious, and with strong febrile symptoms. In the course of a few days, there began to be symptoms of peritoneal inflammation; patient inclining to lie on her back with knees drawn up; and soon there was tenderness over the region of cœcum, which gradually extended over the whole abdomen. Efforts were made from the first to procure an evacuation from the bowels; but with only partial success. There was no more vomiting than would have been caused by the active cathartic medicine she took. Abdomen tumid; some colicky pain; somewhat feverish and occasionally delirious from the first; much prostrated.

On dissection, there was found a considerable quantity of sero-purulent effusion, with some lymph. Intestine much distended with gas and liquid above the strangulation; empty and contracted below. The appendix cœci adheres strongly to the mesentery by a fibrous band, which is prolonged from its extremity, and is not larger than a small knitting-needle. The very lower extremity of the ileum to the extent of about five and a half inches, is the

portion strangulated; but the strangulation was by no means perfectly tight, even in the recent state.

Dr. JACKSON, who communicated the case, remarked upon the peritonitis as a very unusual occurrence; he had never met with it in a case of internal strangulation, excepting once, and then it was owing to a perforation of the intestine at the seat of the strangulation.

Occlusion of the Vagina: Operation: Recovery.—Dr. STORER read the following cases, sent to him by Dr. BRAINARD, of Chicago.

July 7, 1852, I visited Mrs. ——, a young married woman, æt. 19 years, in the central part of Wisconsin, on account of an obstruction of the vagina.

On attempting to pass the finger into the vagina, it was arrested at its very orifice. Immediately behind the carunculæ myrtiformes there was a firm cicatrix which entirely shut up the passage, there being a transverse band from side to side, both above and below which there was a slight depression scarcely half an inch deep. On introducing a catheter into the bladder, and the finger into the rectum, the septum seemed thin, and not as thick as the natural septum of the bladder and vagina. The uterus was felt distended, filling up the cavity of the pelvis, and rising so as to be felt in front two inches above the pubis. She was constantly affected with severe expulsive pains.

This young woman, who was but 19 years of age, and presented appearances of not fully developed womanhood, was married on the 8th of October, 1851. About the 20th of November following, she was attacked with great pain, hemorrhage, profuse discharge of pus and mucus. There was constitutional disturbance of the severest kind, and her life was despaired of. There followed a discharge of shreds and sloughs, horribly offensive, which continued several weeks. This attack was taken for an abortion, but without good reason. It was simply a violent case of acute vaginitis, from too frequent sexual connection with the sexual organs imperfectly developed. She informed me, in answer to inquiries, that coition was very painful, and became more and more so.

Pains, indicating the return of the menstrual period, occurred Feb. 1, 1852, and recurred twice at four weeks' interval without discharge. From that time, the pains were continuous up to the time the operation was performed, the uterus gradually enlarging.

Operation, July 8, 1852. The patient being placed in a suitable position, an incision was made from before backwards through the band before described, extending the diameter of the vagina. The sides being separated by the finger, it was found that the mucous membrane of the rectum could be separated from that of the bladder with the point of the finger, without great violence. When a band of tissue resisted, it was divided with a blunt-pointed bistoury. The separation was freely made to the uterus.

Here, however, instead of finding the os uteri, nothing but a smooth round tumour presented itself. The finger was carried over its surface, and the surface denuded for a space at least two and a half inches in diameter. Finding no mouth, I determined to make a puncture at a point where a slight elevation was felt, and where it was presumed the os had been situated before it sloughed away. Accordingly, I made an incision in the form of two-thirds of a circle an inch in diameter, raising up a piece attached towards the anterior part. There was a copious discharge of the menstrual blood. The wall of the uterus was thick, and gave the sensation of fibres in cutting. Passing the finger within, a slight depression was found opposite the little tubercle

noticed externally, seeming to confirm the idea that this was a vestige of the neck.

After treatment, a tent, or pessary, one and a half inches in diameter, made of pieces of sponge strung together upon a stick, and covered with oiled silk, was passed into the artificial vagina. The point was sufficiently small to press into the opening of the uterus, and the whole long enough to project externally. The case was intrusted to the care of Dr. Robert W. Earll, to whom, and to Dr. Axtell, I was indebted for assistance.

Not a bad symptom occurred; no swellings, and but little inflammation. August 25, she was able to walk from her room without difficulty.

Four months after the operation, Nov. 8, she was well, doing the work of the house, and able to ride several miles. The cicatrization was perfect, at least that was Dr. Earll's opinion. The menses have occurred regularly without pain, excepting the first, August 20, which was painful. She is unwilling to dispense with the pessary, as she experiences a sensation of falling of the womb without it, even when lying. Sexual connection is not painful, and there is no tendency to contraction.

May 30, 1853.—She continued in the same satisfactory condition.

Occlusion of the Vagina and Uterus.—I was called, May 25, 1853, to visit a patient with the above difficulties.

She was a young and healthy woman, who was delivered of her first child in January, 1853. The labour was difficult, lasting forty-eight hours, and was finished by cephalotomy.

About the 1st of April, 1853, Mrs. C. discovered that the vagina was closed.

On examination, it was found, indeed, that a perfect closure existed, commencing immediately behind the orifice of the canal, and extending back as far as the finger in the rectum could reach.

Being consulted at the time it was discovered, I advised no operation to be performed until several menstrual periods had passed, and the uterus and vagina were distended in some degree with the fluid.

Early in May, they wrote me that such was the case, which I found afterwards probably was not so.

May 25, 1853. I performed the operation in the same manner as in the case of the former patient.

The vagina was entirely obliterated and adherent, except a small piece in front of the os uteri.

The os and cervix were found of their natural form and position; but the os was closed. There was no distension with menstrual fluid. An incision was made across the mouth of the womb, and a catheter passed into it. A large tent, one and a half inches in diameter, was passed into the vagina, and the patient put under the influence of a full dose of morphia.

July 7. I have not yet received a report of the progress of the case from the physicians who had charge of it.

Tubercular Meningitis in the Adult.—Dr. JACKSON reported the case, which has lately occurred under his care at the hospital. The patient was a healthy-looking young man, nearly 21 years of age, and entered on the 16th inst. Having had dizziness, with blurring of the sight, for about two weeks, headache supervened on the 4th inst. For the two following nights he worked at his business as a baker, and then gave up. On the 7th, delirium came on, and continued as the most marked symptom; being so active, on his

admission into the hospital, that, after the first night, he was removed from the ward. History given by a friend. There had been scarcely any vomiting, which is so very marked a symptom in this disease; but the bowels were very costive. After admission, the delirium soon subsided; and from the morning of the 18th until his death, which occurred on the evening of the 21st, there was profound coma during most of the time. Drooping, and, towards the last, closure of the right eyelid. Pupils dilated, and fixed. Eyes not particularly congested. Urine quite abundant, as it seems to be not unfrequently in this disease; but retained from the evening of the 18th, so that the catheter was required twice daily. Groping with the hands and picking at the bedclothes was a marked symptom for three or four days after admission. On the 20th, the nurse reported that he had not moved his lower extremities for the last twenty-four hours; and he certainly could not then be made to move them by irritating the soles of the feet, though sensibility was manifested. The tongue was dryish when last seen; he took no food after about the second day, and was often choked by drinks. Abdomen retracted. Pulse 84 on the 17th; 162 on the 20th. Respiration diaphragmatic, but not otherwise remarkable. Emaciated much after admission. Heat of skin moderate, having been much increased before admission.

On dissection, there were found in the head very much the usual appearances; the convolutions over the convexity being rather less flattened, and the arachnoid surface there rather more moist than usual. Serous effusion at the base, with opacity of the membranes, but with very indistinct appearances of lymph; ʒiij of serum in lateral ventricles; central portions of the brain extensively softened, and generally to the degree of diffluence. The surface of the brain also, at the base, anteriorly, was in some parts equally soft, and came off with the membranes when they were raised; in one place, "capillary apoplexy" was seen with the softening to the depth of perhaps one-third of an inch. Pia mater red, fleshy, and finely granulated at the base, as usual.

In the thorax, there was found old disease of the glands about the lower part of the trachea, with a trace of suppuration. At the apex of the left lung was a small amount of disease, apparently quite recent, and peculiar in character. There was, first, a small deposit of lymph; and near it another deposit, mixed with pus, and surrounded by deep ecchymosis; between the two were two or three minute whitish points, which may, perhaps, have been tubercles; but, if they were, they were the only traces of them that were found in the thorax. Lungs otherwise quite healthy; universal old pleural adhesions on the right side, the left being free, except to a very small extent at the diseased apex.

Dr. J. remarked upon the comparative frequency of tubercular meningitis in the adult, as observed here.

August 8. *Hermaphroditism.*—Dr. W. I. Burnett gave an account of a remarkable case of hermaphroditism, the parts of which he had recently enjoyed the opportunity of carefully examining at Cleveland, Ohio. The case has already been described by Dr. Blackman, in the number of the *American Journal of the Medical Sciences* for July last, and has attracted no little attention; but Dr. B. thought the subject worthy of a farther mention.

The individual from whom the structures were taken was a male, 28 years of age. Nothing is known of his early life. He was of English origin, of rather a simple mind, and an hostler by occupation. The last eighteen months of his life were spent in the service of a physician in Cleveland. During this time, he disclosed none of his peculiarities, but was known to be strangely

unwell regularly every month. He manifested rather an aversion to female society, and appeared rather free from sexual passion. He died from cerebral congestion, during one of his monthly attacks. His body was used for anatomical dissection, during which his sexual anomaly was accidentally discovered. At that time, the female parts appeared like those of a normal female during menstruation; the uterus was filled with blood, as well also as the vagina, and its continuation into the urethra even through the penis. The parts, with all their contiguous tissues, were immediately dissected out carefully from the body, and preserved. The pilose system of this individual was feebly developed; beard scanty; pelvic and thoracic formation that of a female, excepting mammæ, which were male. Such is the account kindly furnished by Professor Ackley, of Cleveland.

The following is Dr. Burnett's statement of an anatomical examination of the organs:—

Male parts.—Penis of normal size and structure, and presenting the appearance of that of an adult rather than of a boy before the age of puberty. Scrotum normal, but empty.

The urethra, prostate gland, vesiculæ seminales and bladder were like those of a well-formed male. The testicles were situated in the locality of their primitive formation, and, as before described, in the fœtus. They were about half the usual size of a man of that age, and their real testicular structure was so apparent that it did not seem necessary to subject the tissue to a microscopical examination. From the epididymis of each, passed off, as usual, a vas deferens, which, passing along the brim of the pelvis, finally terminated normally in a vesicula seminalis.

Female parts.—The vagina was of the usual size, but at its lower part it was contracted into a small tube, which passed into the urethra between the lobes of the prostate gland. The communication here between the female and male parts was complete and perfect. The vagina was continuous upwardly, with a uterus of normal structure and appearance, and whose size was that of this organ taken from a well-formed female of eighteen years of age. (A specimen was at hand for comparison.) The cavity of this uterus was complete; and from it passed off, on each side, an ordinary Fallopian tube, which terminated in the usual fimbriated extremity. The ovaries were situated in their ordinary locality, and their structure was such as to leave no doubt as to their physiological character, without the need of a microscopical analysis.

This case is so remarkable as to be almost without a parallel in the history of monstrosities. In the well-known work of Isidore St. Hiliare, one or two analogous cases are quoted; but only one of these refers to the human subject.—See *Histoire Générale et Particulière des Anomalies*, &c. ii. p. 164.

This instance is all the more worthy of attention, since true hermaphroditism in the human subject is totally denied by some, and all cases of this nature are referred, as merely apparent, to false hermaphroditism. Such is the opinion held by Bischoff (see *Wagner's Handwörterbuch*, i. p. 918); and Vogel (*Pathological Anatomy*, &c. Philadelphia, 1847, p. 475) thinks that the cases given are in the highest degree questionable, and founded on a false interpretation of the supernumerary parts.

In the present case, the opportunity for so careful an examination of the parts can leave little doubt that the supernumerary parts were not falsely interpreted.

It may be added that the existence of such normal female parts, and which had the function of menstruation, makes it highly probable that this indi-

vidual was susceptible of impregnation. But it is improbable that the testicles ever performed their true function, and so this individual was physiologically only a female, and the mature, normal appearance of the penis was probably due, not to virile vigour, but to a periodical excitement contemporary with the menstrual function.

Tetanus: Recovery. Reported by Dr. S. D. Townsend.—The patient, a female, aged 28, a prostitute of intemperate habits, was breaking ice with a fork, on Saturday, July 31, when the fork penetrated the thumb of the left hand, under the nail. At 9 o'clock A. M., August 1, she was seized with violent spasms, and was seen by Dr. Wm. E. Townsend in the evening, who made an incision over the wound, and directed an opiate for her. She was taken to the hospital, where Dr. T. saw her about 9 o'clock P. M. The paroxysms were extremely violent, recurring every ten minutes, at times oftener, and from one to two minutes in duration. During the spasms, the veins of the head and neck were very turgid and prominent; respiration entirely suspended; consciousness not impaired; opisthotonos perfect; pulse not much accelerated. The paroxysms continued with the same frequency until 11 P. M. when they occurred less often, and were not so violent. An attempt was made to get her under the influence of ether, without success. Chloroform was also tried, which seemed to have more influence over her; but they both apparently increased the frequency of the spasms. The warm bath was also used, with no better success. Brandy and laudanum were repeatedly rejected by the stomach. Fowler's solution, which has been reported to have been successful in several cases, could not be retained. At 5 o'clock A. M., Aug. 2, there was a recurrence of the spasms, the patient having six between that time and 11 A. M. At 8 o'clock, she commenced taking 1 gr. of opium every half hour, which was continued until she had taken 8 grains, when she slept. Dr. Parkman saw her with Dr. Townsend this morning, when it was decided, if the spasms were not relieved at 1 o'clock, to open the trachea to admit air into the lungs during the paroxysms, and the thumb was also again laid open; but at that hour she was much relieved. August 3, there was a recurrence of the spasms, but with less violence; opium was repeated until she had taken 10 grs.; in the evening, 5 grs. of calomel were given, which operated the next morning. August 4, took 3 grs. of opium during the day; had but four spasms; since which she has been entirely free from them.

Art. VI.—*A Case of Cheloidea, with some Remarks on Cheloid Growths.*

By Waldo J. Burnett, M. D., Boston. (With three figures.)

On my way home from the South, this last spring, I stopped at Goldsborough, N. C., for a few days. Here I accidentally saw, in the office of Dr. Dewey, of that place, a preserved tumour, which, in size and singularity of appearance, quickly arrested my attention. Its cheloid character immediately occurred to me, and through the polite kindness of Dr. Dewey, the tumour and its complete history were freely given me. Dr. Dewey had kept a full account of the case while under his observation; and by his aid I was able to

obtain other details, so that the history both of the case and the disease is pretty complete and satisfactory. The history of the case proper is succinctly as follows:—

The patient is a negro boy, now 16 years of age. When three or four years of age, a small boil-like tumour appeared on the left side of the neck, just beneath the angle of the ramus of the lower jaw. This was lanced, and discharged a drachm or two of pus. But in the lips of the opening there appeared, as it healed, a fleshy growth, which continued to increase, and in three years was of the size of an orange. It was then removed; it reappeared, however, in the lips of the wound, and in three years more had attained the size of six inches in length, and one and a half inch in breadth—a nodulated tumour, lying just below the under jaw, but now reaching a little round to the right side of the neck. It was again removed; but was reproduced; and after a little more than three years had reached a size larger than ever.

The patient then (November, 1849) came under the care of Dr. Dewey, of Goldsborough. The following is a description of the tumour at the time. It was situated in front of the neck, extending over half its circumference, and completely filling the space between the infra-maxillary bone and the sternum and clavicle; it was about twelve inches in length and four inches in thickness, presenting the appearance of a large Bologna sausage attached about the neck. It was lobulated, unyielding on pressure, and cold to the touch. It was attached by its whole length; but this attachment was narrow, averaging less than one inch in breadth.

It was removed, and found to have only a cutaneous base; but the hemorrhage was much more than had been anticipated, all the cutaneous vessels appearing enlarged, and six to eight needing the ligature. (Fig. 1.)[1] The skin retracted so much that the lips of the wound could not be brought together, and the parts were kept open for the application of caustic. After slow cicatrization of the wound, the cicatrix immediately enlarged, and the tumour was reproduced, in spite of all treatment. In April, 1853, it was as large as before; and those who had known its past history advising a discontinuance of all farther surgical treatment, the boy was taken to a neighbouring city for operation. I saw the patient several months after this last operation; the disease was rapidly reappearing, not only in the lips of the wound, but also in all the stitches, and very forcibly reminded me of a large South American centipede. (Fig. 2.)[2]

Such is the history of the case proper.

The history of the disease in connection with this particular case is even more remarkable.

The father of the patient, and the father's two brothers, had the same kind of a tumour in nearly the same locality; the father had also several of them on other parts of the body; four children of this father, beside the one belonging to the case, had also this affection, and situated for the most part in the same cervical locality. One of these children, a boy of fourteen years, who was on a neighbouring plantation, I went to see for the sake of verifica-

[1] The drawing was kindly made for me by my friend, Dr. W. T. Parker, formerly of South Boston.

[2] This rude drawing is given simply to represent the multiple reappearance of the disease in the wound.

tion. I found that he had a flabbish oval tumour, of the size of half an orange, situated on the left side of the neck, in the very locality where the original

Fig. 1.

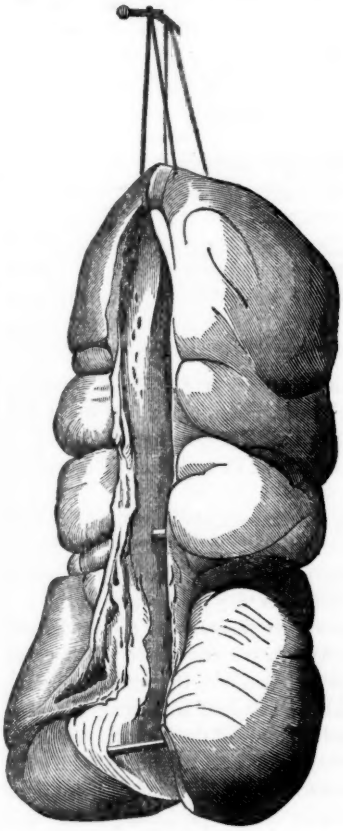


Fig. 1. Tumour after removal.

Fig. 2.

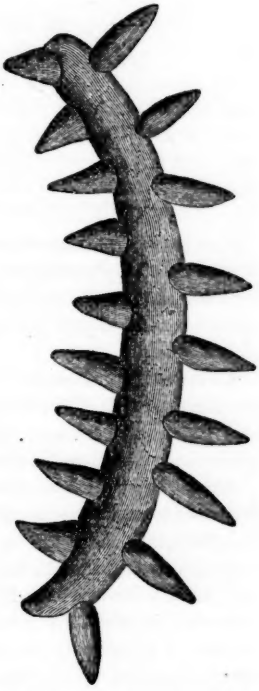


Fig. 2. Represents tumour reappearing on neck in each stitch.

tumour of the case reported appeared. It was evidently the same kind of a growth as the one in question. In a word, this morbid formation appeared to be a kind of family characteristic from the paternal side.

The anatomical structure of the tumour in question, removed by Dr. Dewey, was remarkable for its simple, innocent character. It was dense and slightly yielding, and its feel, as well as the aspect of its incised surfaces, was that of a simple fibrous structure. I subjected it, moreover, to a most critical mi-

croscopical examination, taking bits from different parts of the tumour. Its intimate composition was exclusively the fibres of a fibro-cellular tissue, which had involved in the growth and expansion of the disease a greater or less amount of epithelium—this last appearing in the form of broken cells and scales. (Fig. 3.)

Fig. 3.

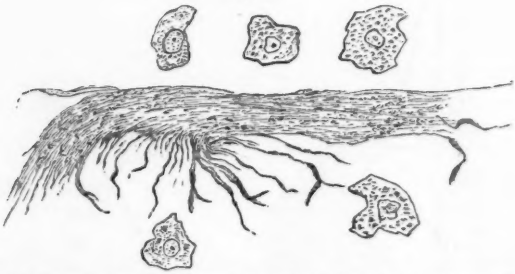


Fig. 3. Represents microscopic structure, fibro-cellular tissue, and old epithelial cells.

In an anatomical point of view, then, this disease is only a fibrous epigenesis of the skin. Its physiological relations, however, seem far more complex and important, and as the opportunity is a good one, I propose to refer briefly to the obscure and imperfectly understood disease which has received the name of cheloidea.

All the writers on cutaneous diseases, who have made special mention of this disease, speak of it as of very rare occurrence, none of them individually having seen but a few cases. It is perhaps on this account that their expressed opinions correspond to the character of the cases they have observed.

Alibert[1] describes it as distinctly a cancerous disease, and divides it into the two forms of *genuina* and *spuria;* he mentions one case in which it was hereditary, and the figure he has given corresponds to the well-known form as usually observed. The tumours which he examined were composed of a hard, whitish fibrous tissue, like the glandular body of the mamma. Judging from this, it might be inferred that his cases were only those of fibrous growths of structurally an innocent nature. Other dermatologists, such as Green, Cazenave, Wilson, &c., notice it more or less particularly; but their descriptions are vague and unsatisfactory as far as regards the real nature of the affection, no careful structural analysis having been made. Rokitansky[2] classes it among the epigeneses of fibroid tissue, from its identity of structure. He says: "Some constitutional disorder lies at the root of every case; but the nature of it is unknown; that it is cancerous, is altogether problematical." Warren[3] divides this affection into three varieties, which are dependent on

[1] Alibert, Malad. de la Peau, Paris, 1833, p. 209. Pl. XXXVI–VII.

[2] Rokitansky, Path. Anatomy, Syd. Soc. Ed. iv. p. 92.

[3] Warren, Surg. Observ. on Tumours, Boston, 1848, p. 41. Pl. III. p. 48, Pl. IV.

their form and general appearance; for he adduces no evidence that they are not all structurally identical. He mentions two cases of his third or malignant variety, in which the disease was reproduced after removal. Under the new term *Eilodes*, he describes a disease which he regards as of allied nature. The example on which this new generic form is based, is a case in which a tumour, resembling a coil of sausage, is situated on the neck of a negress, as he has represented in a well-known plate. This singular tumour was removed, but finally compromised life. The whole history of the case is like that of many cases of cheloidea; in fact, in many respects not unlike that of the one I have described; there is, moreover, no reason for supposing that it was structurally peculiar, and as tumours must be classified according to their historical and histological relations, rather than from their mere form and shape, it would appear to me that Dr. Warren's *Eilodes* is only a peculiar form of cheloidea. At a meeting of the Royal Medical and Chirurgical Society of London, in January, 1849, Wilson[1] gave the details of three cases, and Mr. Chalk gave an account of another. At the discussion which followed these papers, the opinions of several well-known surgeons were elicited. Mr. Charles Hawkins thought the disease not a rare one, he having seen three cases. B. Phillips spoke of two, and had noticed similar growths which succeeded the use of tartar-emetic ointment on the chest. Mr. Lloyd mentioned two cases also. It was here mentioned that the French authors have described only twenty-four cases. But in this discussion there was nothing important elicited as to the histological and other characteristics of the disease; by some, it was thought to be generally malignant, but this referred rather to its obstinacy of continual return than to its real cancerous nature.

At a late meeting of the Boston Society for Medical Improvement, at which the case I have above described, together with the specimen, were presented, there ensued no little discussion upon this disease. Dr. Jackson remarked upon the comparative rarity of this affection, he having seen in the pathological museums of Europe which he had visited only a very few specimens. Dr. Warren and others mentioned cases which they had observed, and the disease was regarded as much more common in this country than in Europe, according to the statements of foreign writers.

I will not burden the subject by detailed references to special cases which are scattered through the journals; but distinction being made between certain cutaneous hypertrophies which follow upon laceration and lesions of the skin (such as the use of certain ointments, and of the lash with negroes), in subjects having some constitutional disorder, and the other form which appears spontaneously and generally at certain localities—this distinction being made, it is evident, from the imperfect *résumé* we have just made, that true cheloidea is one of the most remarkable morbid formations with which we are acquainted. So far as the few histological investigations which have yet

[1] Wilson, Lond. Med. Gaz. xliii. 1849, p. 165.

been made would warrant an opinion, there is evidently nothing cancerous in its structure; it is a fibroid epigenesis, as simple and innocent in structure as any common dermic hypertrophy. Nevertheless, it sustains relations to the constitution and economy which are as constant and deep as those of the most malignant cancerous diseases. It is not only hereditary, but, as the case I have related shows, tends to reappear in the offspring in exactly the same locality, and when removed, "root and branch," the wound produced by the operation only serves as the bed for its wider and larger growth.

In cancer, we have a morbid product, which is wholly heterogeneous to the constituents of the healthy economy; the same is true of tubercle. The relations of both these diseases, which have no analogues, are constitutional, and therefore hereditary. We have seen the relations of cheloidea to be precisely the same in a physiological point of view; indeed, this affection, when carefully studied, seems to introduce a new feature in our views of physiological pathology. There can now be no doubt about the distinct and peculiar histological components of cancer; but if there are other growths, which are simply homologous, and are structurally of as innocent a character as the most ordinary cutaneous formations, we may well be led to ask if the practical malignancy of a morbid growth does not lie deeper than the field of exploration of chemistry or microscopy.

ART. VII.—*Cases of Lead Poisoning.* By E. A. ANDERSON, A. M., M. D., of Wilmington, N. C. Formerly Resident-Physician and Surgeon to the Philadelphia Hospital.

CASE I.—Henry Schemmerhorn, house-painter, aged thirty-seven years; habits very dissipated and intemperate; has been engaged in painting for the last fifteen years. On the night of the 27th of March, 1853, I was called in great haste, and on approaching his house heard the cries fully a square off of the patient. Found him labouring under constant and severe griping pains in the abdomen, attended with but little tenderness and no fulness; frequent eructations and vomiting; violent spasms; obstinate costiveness; great gloom and dejection of mind; pulse very slightly if at all disturbed; skin cool; tongue moist and natural, and very little if any thirst. Abdomen in the umbilical region retracted to the spine; pain not increased by pressure. Countenance haggard; eyes wild and rolling. Intervals of comparative ease are followed by such intense paroxysms of pain that the patient loses all self-control; shrieks violently, and cries like a child. Judging from Schemmerhorn's intemperate habits, I at first suspected him of suffering from the abuse of spirituous liquors, especially as there was some inability to extend the hand, or open the fingers from want of power or control over the muscles of the wrist. In addition, his gait is weak and tottering from laxity of the knee and ankle-joints, when he is ordered to stand up during the respite from pain. Close cross-examination, however, of himself and wife,

elicited the fact that he had drank nothing for upwards of two weeks or more, being confined for that time to the house with symptoms, more or less severe, of colic, which gradually increased in frequency and severity, notwithstanding the use of various domestic remedies. Upon opening the mouth of Schemmerhorn, to examine his tongue, I was struck with a dark blue line around the teeth and gums both of the upper and lower jaw, so characteristic of lead-poisoning, and laid down by Tanquerel as an unerring sign of this affection. Taken in connection with the occupation of the patient, this strong diagnostic mark shows the nature of the case in the clearest possible manner, leaving no doubt either of its character or treatment. The indications here are very evident—first, to allay the severe spasmodic and neuralgic pains; secondly, to bring on free action of the intestinal tube; and thirdly, to remove the lead by which the whole system is thus thoroughly impregnated. Ordered one-fourth of a grain of sulphate of morphia in solution every quarter of an hour until the patient is relieved. ℞. Morphiæ sulphas grs. ij; aqua ʒi. Take a teaspoonful every quarter of an hour. After taking eight doses, or two grains of morphia, the pains and spasms ceased; an enema of salt and water was thrown up the rectum, and repeated three times before an operation was induced. The patient was then allowed to rest, and, as it was near midnight, I took leave, ordering ol. ricini ʒi; tinct. opii gtt. xx, to be taken early in the morning.

March 28, 1853. Upon visiting patient this morning, found the oil had operated finely, and that he is comparatively free from pain, suffering only from great prostration and soreness of the bowels. Ordered to fulfil the third indication, viz. the removal of the lead from the system. ℞. Potassæ hydriod. ʒij and ℈ij; aquæ ʒiv. Take a teaspoonful four times a day, and continue as long as the gums around the teeth indicate any decided blue tinge; if the pain returns, take, in addition, one-eighth of a grain of morphia in each dose until it subsides.

Schemmerhorn rapidly improved under this course of treatment, with but occasional returns of colic—this was kept down by the morphia, aided by large doses of castor-oil to keep the bowels open, carefully abstaining from painting for one or two weeks. At the end of this period, necessity compelled a return to his trade, and the blue line around his gums having, in a great degree, faded away, he was allowed to resume the occupation of house-painter. He is ordered the use daily at dinner of the sulphuric acid lemonade. This is given according to the directions of the French writers, who suppose that an insoluble sulphate of lead is thus formed, decomposing the carbonate and preventing farther attacks. Since then Schemmerhorn has had no recurrence of lead colic, and, up to this time, enjoys his usual health.

Case II.—Mercury Davis, for the last twenty years house-painter, aged forty-two years. Patient complains of obstinate constipation, frequent vomiting, severe paroxysms of pain, great weakness in the legs, particularly in the knee-joints, drooping of the wrists, great languor and lassitude, gloom of mind, eyes slightly jaundiced, pulse nearly normal, and skin of natural temperature. Upon opening his mouth, a distinct dark blue line is perceived on the gums, and around the incisor teeth of both upper and lower jaws. Has been subject for some time back to constipation and abdominal pains, with frequent attacks of nausea and vomiting. His symptoms not being so severe as Schemmerhorn's, in case No. 1, I did not think it necessary to press the opiates so rapidly, having more time to manage this attack. Ordered mass hydrarg. grs. x; sulphate of morphia grs. ¼ every third hour until the pain is relieved or bowels moved.

April 6, 1853. *Evening.*—Found patient comparatively relieved of pain; vomiting ceased, but no operation of bowels; has taken four pills or one grain of morphia and forty of blue mass. Ordered ol. ricini ℥i to be taken at once, and, if the bowels are not moved by the following morning, give a purgative enema; suspend pills of morphia and blue mass.

8*th.* Upon visiting Davis, found that the oil had produced one large operation of hard clay-coloured scybalæ, and that he was quite comfortable except feeling great soreness in the bowels upon motion. Ordered five grains of hydriodate of potassa and one-eighth of a grain of sulphate of morphia four times a day as long as any soreness of the bowels remains.

9*th.* Patient quite comfortable; no operation since morning of 8th. Ordered magnesiæ sulphas ℥i, statim sumendus, which operated well on evening of same day.

10*th.* Patient quite comfortable; bluish line fading somewhat around the gums. Continue hydriodate of potassa grs. v four times a day as long as the discoloration remains, with occasional doses of morphia in case of recurrence of pain, and sulphate of magnesia to open the bowels if they should be again locked up. Under this treatment, Mercury entirely regained the use of his arms and legs, and the characteristic blue line around his gums was rapidly fading, when I lost sight of this case, strictly ordering him to change his occupation. Necessity, however, compelled him to resume it, and he has suffered from several similar attacks, each relieved with greater difficulty until he is now, at the present time, suffering from general anasarca, ascites, and breaking down of the entire constitution; health utterly ruined by repeated attacks of lead-disease.

Case III.—George Williams, aged thirty-four years, engineer of Point Peter Steam Saw-mill; habits good and temperate; previous general health good. This patient was taken a week before I was called in, and treated by Mr. Keith, the proprietor of the mill, for what he supposed to be an attack of ordinary simple colic. Injections, ol. ricini, sulphate of magnesia, and tinct. opii, with blisters to the abdomen were ineffectually employed. He was then sent over the river to me, and, on visiting him, found he was complaining of constant vomiting, frequent and severe paroxysms of pain in the umbilical region, a deep-settled gloominess of mind, great despondency and obstinate costiveness, having had no operation by the bowels for more than a week. Having been very much engaged, I had, in a measure, forgotten the cases of the two painters above, and as I had no suspicion of the presence of lead in George's attack, was not struck with its great similarity to Schemmerhorn's and Mercury's. I supposed it to be a case of simple colonitis, or obstruction, either mechanical or spasmodic, of the intestinal tube.

May 1. Patient was ordered tinctura hyosciami, vin. sem. colchici, āā ℥i. Take a teaspoonful every hour until pain is relieved or bowels moved. Warm fomentations to the abdomen, and injections at sundown.

2*d.* Medicines had operated well; patient much easier and more composed; is able to answer questions in a satisfactory and collected manner, and can give a full account of his attack and previous state of health, which he could not do on former visits. Found upon inquiry that he was not subject to attacks of colic previous to being employed at Point Peter Steam Saw-mill; but that for the last few weeks he has been suffering from occasional cramps, costiveness, and abdominal pains, with great weakness of the wrists, ankle, and knee-joints, since taking charge of the engine at Point Peter Mill. Suspend colchicum and take tincture of hyoscyamus ℥j four times a day. Moderate exercise in the open air.

4th. George has now returned to his post, and complains only of great debility and weakness of lower extremities and wrist-joints—despondency of mind still remains. Ordered tinct. ferri muriat. as a general tonic, gtts. xx ter die. He gradually improved, and, for the present, I lost sight of this case, still entertaining no suspicion of lead-colic, *which we shall see in the sequel was clearly the nature of the disease.*

Case IV.—David Grant, aged thirty-six years, fireman at Point Peter Mill. This patient came to me on the same day that George was discharged, viz. May 4, 1853. He was then suffering under constant vomiting, severe abdominal pains, obstinate costiveness, languid look and wo-begone countenance. Upon examining his mouth, I was struck with the characteristic blue line around the gums of the upper and lower incisor teeth, more strongly marked than in any case I have ever seen. It presented the appearance as if the entire gums had been painted with lead-coloured paint, very thickly laid on with a camel-hair brush. This was an unequivocal case of lead-colic, as we shall see most conclusively at the close of this article. To avoid useless repetition, I will here state that David was treated by injections, blue mass, and morphia, until the pain was relieved and bowels moved, followed by five-grain doses of iodide of potassa four times a day until the blue line of gums had disappeared. It is gratifying to see how rapidly this takes place under the use of the hydriodate of potassa, and I do not consider any patient safe until the natural healthy colour of the gums returns. In about a week, this patient resumed his work, and up to this time has had no return of his disease.

Case V.—*10th.* While attending David, I was hastily summoned again to George Williams, the engineer, who had a second attack similar to the first (as in Case III.), but more violent in degree. He presented all the symptoms of poisoning by lead, and on examining his gums, the dark blue shading was almost as strongly marked as in David's case.

George was treated by injections, calomel and opium in large doses, followed by ol. ricini and hydriodate of potassa. Strict orders were also given, both to him and to David, to use no water but what they carried over in jugs themselves, from the Wilmington side of the river, until I had an opportunity of analyzing the water furnished by the proprietors to their operatives. George recovered in a week and has had no return of his complaint, although his case and David's were the two most violent I met with at Point Peter Mill.

Case VI.—*May* 12, 1853. Samuel Meares, labourer at Point Peter Mill, came to my office on the 12th of May, 1853, with a very bad contused wound of the second and third phalanges of the forefinger of the left hand, caused by being caught between a heavy stick of timber and the flow of the mill-slide. While dressing his finger, he complained of severe abdominal pains, frequent vomiting, and obstinate costiveness. His gums presented the bluish line around the teeth very strongly marked, with the other assemblage of symptoms usual in lead-poisoning. This case proved a very severe one, but eventually yielded to the treatment made use of as above. Ordered to drink no water but what was procured by himself.

Case VII.—*May* 13, 1853. Collins Gause, aged forty years, slide hand or out-door labourer at Point Peter Mill, was taken with all the usual assemblage of symptoms marking poisoning by lead. Upon examining his gums, Tanquerel's blue line was very strongly defined. Treated as above, with a similar successful result.

Case VIII.—*May* 14, 1853. Henry ——, labourer at Point Peter Mill, aged thirty-five years. This case was a much slighter one than any of the pre-

ceding. It presented the usual symptoms of lead-poisoning with the bluish discoloration of the gums witnessed in the others. It yielded readily to ol. ricini and tinct. opii., followed by iodide of potassa and morphia.

Case IX.—*May* 14, 1853. Jacob Howard, aged twenty-five years, slide hand at Point Peter Steam Saw-mill. This was a very severe case with the blue deposit on the gums strongly marked, and all the other symptoms of lead-poisoning. It required one-fourth of a grain of sulphate of morphia and ten grains of mass hydrarg. every hour, for six hours, before relief was experienced. Cathartics of sulphate of magnesia, and injections to unlock the bowels, with hydriodate of potassa to remove the lead-deposit, completed the general treatment. It terminated like the others, successfully.

Case X.—*May* 15, 1853. Mary ——, cook to the labourers of the mill. Attack slight, with a very distinct blue tinge around the gums. It yielded to five grains of blue mass and a quarter of a grain of sulphate of morphia every third hour, followed by cathartics of sulphate of magnesia.

Case XI.—*May* 20, 1853. Mr. Spooner, superintendent of the saws at Point Peter Steam Saw-mill, a man of very correct and temperate habits. He has been residing at the mill for the last six months or more. Came to consult me for constant abdominal pains, obstinate costiveness, nausea and vomiting. Upon examining his gums, the blue line was distinctly visible around his teeth. He was treated as above with a similar successful result.

Case XII.—*May* 26, 1853. Jim Howard, labourer on the slide at Point Peter Mill. This patient came under treatment for a severe cold and intermittent fever, but complained, in addition, of nausea, constipation, and pains in the epigastric region. Tanquerel's blue line is very distinctly marked on his gums. His primary disease yielded to cough mixture and the sulphate of quinia, and the colica rachialgia to anodynes, opiates, and cathartics. This case was a mild one, and is only introduced to show how very extensively this complaint spread among a body of some twenty labourers, involving fully one-half of the entire force, and, for a time, almost suspending the operations at this mill, which is among the largest in the whole Southern country.

Mr. Groves, the general superintendent of the mill, and Mr. Keith, the proprietor, had both frequently complained of constipation and abdominal pains for some time previously, without suspecting the cause, and had experienced more or less relief by the use of various domestic remedies, such as pill hydrarg., paregoric, ol. ricini, &c. Upon examining their gums, a distinct trace of lead was visible. Living, as they do, on the Wilmington side of the river, and remaining on the Point only during business hours, they drank less water than the other operatives, and, of course, were but slightly affected. They have all enjoyed much better health since they have discontinued the use of the water formerly used at this establishment.

The Cape Fear River, at the town of Wilmington, N. C., divides into two branches called respectively the North-west and North-eastern Rivers. The long narrow point formed by these two rivers is known by the name of Point Peter, and is composed entirely of alluvial soil, being a mere marsh, elevated just above high-water mark, and is occasionally covered by the freshets of these two rivers. On the verge of Point Peter, which is here some 200 or

250 feet wide, is situated the Steam Saw-mill of Messrs. Nelson and Keith. On the western side of the north-east river, directly opposite to the mill, is the depot and steamboat wharf of the great Northern and Southern Railroad, which connects the waters of the Chesapeake Bay at Norfolk, Va., and of the Cape Fear at Wilmington, N. C., or the great route between New York City and Charleston, S. C. The sand-bluff here rises forty feet or more above the river, and as the railroad pursues for the first part of its course a direction nearly east, or at right angles to the river before making its great curve to the north, it bisects or splits in two this sand-bluff or elevated table-land. Along the line of this deep excavation, several springs of pure water are opened and collected into one reservoir, from which it is carried through a five-inch cast-iron pipe to a large cistern some five hundred feet from the river-bank at an elevation of about twenty feet from its surface. This water is perfectly pure, being free from any trace of lime, saline, or mineral substances, and is exactly in the condition laid down by Christison as most exposed to the risk of dangerous impregnation from lead—for the more pure the water, the greater the risk—since the saline and earthy waters deposit or line the inside of the lead-tubing with an insoluble crust or coating, which pure water fails to do; but takes up and holds in solution the poisonous particles of lead, ready to act with its deleterious properties upon those who, unfortunately, use it through ignorance of this chemical law.

During the fall of 1852, the workmen at Point Peter Mill suffered much from repeated attacks of dysentery, supposed to be produced by drinking the river-water. At this season of the year, the Cape Fear is very low, leaving its banks uncovered, and a very large extent of swamp and boggy marshes, filled partially with stagnant pools slowly running into the river, which, consequently, brings down past the mill-site much decayed vegetable matter and slime in solution. Fresh spring-water is carried across the river in casks for the use of the operatives, but, becoming warm, is not generally used—the temptation to drink the river-water, which is much cooler, overcoming the dictates of prudence.

The proprietors of the mill, hence, were induced to carry the pure spring-water from the reservoir above-named on the sand-bluff opposite to Point Peter, across the river to the mill, and, unfortunately, made use of lead-pipe for this purpose. The spring-water is conducted from the reservoir on the side of the sand-bluff or hill through a three-inch lead-pipe some five hundred feet to the margin of the river. Here it is taken by another lead-pipe, one-inch bore, which dips down, following and resting upon the bottom of the river over to the Point; this pipe is fifteen hundred feet long, making, with the large tube, *two thousand* feet in all, which conducts it into a large cistern on the wharf of Point Peter. This water has been used very freely by all the operatives at the mill.

For the first three or four months, with the exception of occasional neuralgic pains, simulating colic, general languor, and malaise, no prominent symp-

toms of lead-affections occurred. This, however, is not at all surprising, if we consider that, in the first place, the majority of patients do not suffer from lead-colic for a number of years, since lead is a cumulative poison, the introduction of very minute portions of which into the system ultimately produces effects that may not show themselves at first. Secondly, that as the winter of 1852–53 followed shortly after the introduction of the lead-pipe, a far smaller quantity of water was made use of than in the heats of summer, when the thermometer often rises to 120° in the sun. And we find that the most severe cases occurred precisely among those workmen, who, being most exposed to the heat of the engine and furnaces, drank very freely of this water. That the next most severe class of cases were among the out-door or slide hands, who were exposed to the full action of a southern sun. The labourers who worked in the shade under cover of the mill, were less heated, used comparatively but little water, consequently imbibed but a minute portion of lead, and of course suffered least of any.

The two superintendents of the mill, viz. Groves and Spooner, who were not expected to perform manual labour, of course suffered less in proportion; for they were not heated by excessive exercise or labour in the sun, and drank, necessarily, but little water.

Mr. Keith, the proprietor, resides constantly on the Wilmington side of the river, and used the lead-water at only occasional intervals, and was of course but slightly affected.

The above ten cases, occurring in one locality, characterized by a great similarity of symptoms; presenting, as they did, severe abdominal pains, constant vomiting, obstinate constipation, no fever, great gloominess of mind, languid look and wo-begone countenance, with the *blue line around the gums and teeth*, the most unerring symptom of all, could leave no doubt of the character of the complaint, especially if we consider the great length of pipe, viz. two thousand feet, through which the water is carried. They all yielded to the same general course of treatment which we have found in our experience to succeed best, viz.: iodide of potassa, morphia, injections, colchicum, hyoscyamus, mass hydrarg., blisters, opium, ol. ricini, and calomel. In a word, allay the pain with narcotics and anodynes; aided, if necessary, by blisters, followed up by enemas and cathartics, and the free subsequent use of the iodides.

But one link was wanting in this chain of evidence, viz. the presence of lead in this water, and this we were enabled to detect most satisfactorily. Two vessels were filled, one with perfectly pure water and the other with water furnished us by Mr. Keith, from Point Peter cistern. Iodide of potassa being placed in the one, the colour was unaltered; but in the other, an orange-coloured tint was at once perceived, showing the formation of iodide of lead by precipitation. A second set of vessels were similarly filled; through both a stream of sulphuretted hydrogen gas was passed; no action on the pure water: but in the

suspected liquid, a copious dark brown precipitate was thrown down, exhibiting sulphuret of lead, which collected in perceptible portions at the bottom of the glass.

Since Mr. Keith has discontinued the use of this water, all cases of colic have disappeared among the workmen; for we see that ten out of twenty workmen were attacked in rapid succession, almost suspending the operations of the mill during the most active and profitable season of the year. Water is now carried over in casks, and no loss of labour is experienced.

The proprietors of Point Peter Mill have concluded to abandon the use of the lead-pipe, and either use the gutta percha in its place, or sink an artesian well. From the earliest use of the lead-pipe up to the present time, its poisonous properties have been prominently brought before the public; but such is the economy, flexibility, and convenience of this style of pipe, that but little impression against its use has hitherto been made. In the hope that these statements may lead to investigation, and arouse to a sense of danger, thus constantly incurred, I have reported these cases to your widely extended journal, if you deem them of sufficient interest to merit an insertion.

ART. VIII.—*Crystals of Urate of Potash in Urine.* By BENJAMIN S. SHAW, M. D., of Boston. (With wood-cuts.)

ON examining an urinary deposit, I found crystals of urate of potash. This substance rarely has a crystalline form in urine, generally being deposited amorphous. In this instance, these crystals were in the form of flat needles, with well-marked terminal faces, transparent and colourless. Many of them were collected in groups around a common centre, forming rosettes. When dissolved in nitric acid, and treated with ammonia, they gave the usual indications of uric acid, viz., a purple colour. Dissolved in nitric acid and treated with chloride of platinum for potash, yellowish octohedra of chloride of platinum and potash, not polarizing light, were formed.

The deposit was flocculent, and of a light-pink colour; no other abnormal ingredient was found in the urine, except a small quantity of the ammonia-magnesian phosphate, and a very few torulæ, which were probably of accidental occurrence.

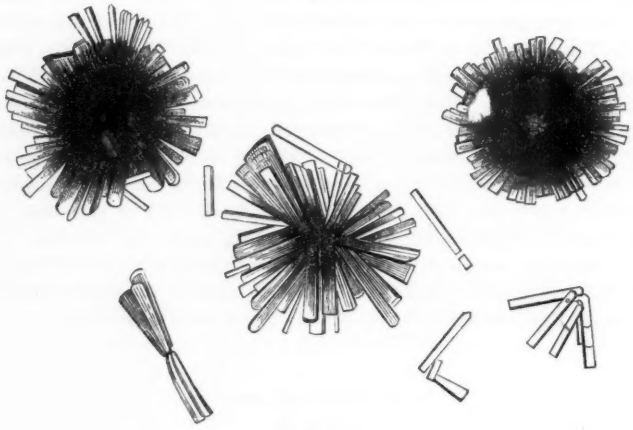
The patient from whom the urine came was a young man who had complained of general debility and loss of appetite, without any well-marked symptoms of any disease, for several weeks.

This form of urate of potash can be artificially obtained by the union of uric acid and potash in large quantities, and crystallization from hot water.

I am not aware that it has ever been seen in urine. Indeed, any form of urate of potash is rare.

The accompanying figures represent these crystals magnified 350 diameters.

Fig. 1.



350 diameters.

ART. IX.—*A peculiar form of Uric Acid in Urine.* By BENJAMIN S. SHAW, M. D., of Boston. (With wood-cuts.)

ON examining a deposit in urine, I found a peculiar form of uric acid. They were large ovoid disks, thin and very transparent, of a pinkish tinge when in a drop of urine, and yellowish when dry. They refracted light strongly, were seen to be disks when revolving in a fluid, and measured on an average 0.028 of a millimetre in their long diameter, and 0.021 of a millimetre in their short diameter. They polarized light beautifully, showing a series of concentric circles, making it probable that their structure is zeolitic, although no trace of needles or any internal structure could be discovered. In some the disks were not perfect, both extremities being wanting. When treated with boiling water they dissolved, and on cooling were precipitated as crystals of uric acid of common and well-known forms, polarizing light, and presenting all the characters of common uric acid.

The deposit was of a brown (light chocolate) colour, heavy, the urine acid, and no other abnormal ingredient seen in it. The patient, a woman, æt. 35, had had scarlet fever, followed immediately by rheumatism, and afterwards

by erysipelas. The urine was remarkably abundant during the whole of the diseases.

The accompanying figures represent these forms of uric acid uncoloured; the group to the right, the appearance when seen with polarized light. Magnified 350 diameters.

Fig. 1.

350 diameters.

ART. X.—*On Dumb-bell forms in Urine.* By JOHN T. PLUMMER, M.D., of Richmond, Indiana. (With wood-cuts.)

IT has not been many years since Dr. Bird wrote that "in a very few cases the oxalate (of lime) is met with in very remarkable crystals, shaped like dumb-bells, or rather like two kidneys, with their concavities opposed, and sometimes so closely approximating as to appear circular, the surface being finely striated. These crystals are produced, in all probability, by a prolific arrangement of minute acicular crystals. I have not met with many cases in which this zeolitic was present."

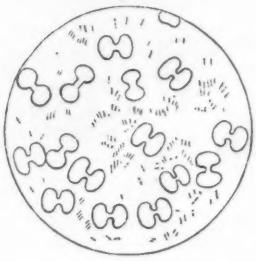
The chemical character of these dumb-bell forms appears to have been satisfactorily settled in the mind of Dr. Bird; and I do not know that subsequent observers had ever suspected that other constituents of the urine might assume the same forms, until Dr. Frick, of Baltimore, communicated to this journal in 1850, the result of his examinations of uric acid crystals, which, by partial disintegration, he found were sometimes reduced to forms approximating to those of dumb-bells. He likewise says: "The ovals usually described as separate figures from the dumb-bell, are, in fact, identical with this."

I have recently met with two-knobbed crystals in the urine of a man crip-

pled with chronic rheumatism, which correspond in form with every variety of dumb-bell oxalate of lime that I have seen figured or described, and yet are neither lithic acid, nor a salt of lime.

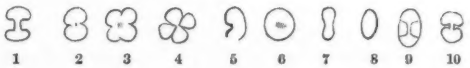
The urine in question was passed in small quantity, was loaded with lithate of ammonia, was very acid, and had a specific gravity of 1025. It was not albuminous. I filtered off the lithate, and allowed a few drops of the filtrate to evaporate spontaneously on a slip of glass. On subjecting the dried specimen to a considerable magnifying power, I was surprised to find the whole field of the microscope strewed over with dumb-bell-shaped bodies, as represented in the annexed figure. These bodies were transparent and colourless. It will be perceived that they bear a close resemblance to each other.

Fig. 1.



In subsequent evaporations of the same urine, I obtained not only the same forms, but several modifications of them; the principal of which are shown in the following range of figures. The first, second, third, sixth, seventh, and eighth, were not uncommon forms. The fourth appeared

Fig. 2.



clearly to be formed by the intersection of two dumb-bells at their contracted portions. The fifth or kidney form was sometimes varied so as to resemble different kinds of seeds with conspicuous hilums. The oval outline of the ninth figure was only seen by varying the focus. No striæ were observable in any of these figures; the parts within the outlines appearing as pellucid as water. A modification of the tenth form obtruded itself upon the imagination as a couple of mushrooms with the lower surfaces facing each other.

About a week after the foregoing urine was examined, I received another specimen of that secretion from the same person. It contained no apparent lithate of ammonia; and, although it had just been passed, it was perfectly neutral. In this sample I could detect no dumb-bell forms.

I afterwards subjected the urine of a healthy man to a like examination, and found an abundance of these interesting figures in it, mostly resembling those in the above circle. Many of them, however, had the double-mushroom shape. In a favourable light, delicate striæ were obvious.

It now became an important question to determine the chemical composition of these bodies. In order to cause them to roll about, that I might

ascertain their thickness and lateral form, I applied some alcohol (sp. gr. 810), and found the extremities had a lenticular shape; and that the dumb-bells were quite soluble in that liquid, but were momentarily rendered more distinct by it. Thus, they agreed with the dumb-bell oxalate of lime only in form; and on the addition of acetic acid they speedily disappeared; they could not, therefore, be an oxalate of lime. Was it then any of the normal salts of the urine that had assumed this mode of crystallization? Sulphate of soda, sulphate of potash, chloride of sodium, chloride of ammonium, phosphate of soda, of lime, &c., are all soluble in acetic acid. Urea, another solid constituent of urine, is also soluble in this acid. But I could not by any process of crystallization convert the urea into dumb-bells; nor was I any more successful in a like attempt with the preceding salts. Uric acid is not soluble in acetic acid; and, besides, the figures of altered crystals of that acid, as given by Dr. Frick, could not be readily mistaken for those now in question.

As oxalate of lime was satisfactorily proved to take on this dumb-bell form, was it not probable that my dumb-bells were an oxalate of some other base?

I prepared such a salt of soda, potash, lime, ammonia, and magnesia, and allowed the solutions to evaporate spontaneously on slips of glass. But on repeated trials I could deduce nothing satisfactory from the experiments, with the remarkable exception of that with the oxalate of soda. The process of crystallization in this case was particularly interesting. I was enabled to see under the microscope all that I could desire. Indeed, I was fortunate enough to witness the whole process of transformation of the prismatic crystals into the dumb-bell forms. In the first place, the oblong crystal appeared; the internal portion being still liquid. Then a bubble of extricated air made its appearance at each extremity of the crystal. These globules of air gradually augmented in size, at the same time that there was a transient solution of a portion of the shaft of the crystal, and transfer of the solid material to the exterior of the globules. The air bubbles finally, in this manner, approached each other in the shaft of the crystal, until they rushed together.

The following figures will, perhaps, sufficiently illustrate this series of changes.

Fig. 3.

Many of these crystals assumed the form of a pair of door-knobs attached by their shaft. Most of the knobs in all the dumb-bell forms were perfectly spherical. Among these dumb-bells (which formed themselves into a ring around the margin of the evaporating solution, and, as they appeared under the microscope, reminded one of the druidical arrangement of rocks) were

extremely delicate crystal filaments, shooting into the interior of the drying spot, and bearing a remarkable resemblance to the finest fibres of glass. I at first suspected this was some impurity in my preparation of the oxalate; but during my microscopic examination, I was gratified to perceive some of the filaments spontaneously dissolving, and, by a reaggregation of the saline particles, forming minute dumb-bells in the whole line of those filaments.

In numerous cases the spherical extremities of these soda dumb-bells appeared to have been ruptured; and a hemisphere of lengthened crystals to have radiated from a common centre; but the striated appearance was not by any means so delicate as that of the urinary salt.

These experiments were, of course, by no means conclusive. They only served to show that oxalate of soda tended to assume the dumb-bell form. Was the urinary concretion, then, an oxalate of soda? I carefully tested urine containing these dumb-bell forms; but could detect no trace of oxalic acid in it. There was, indeed, a delicate cloud formed, on the addition of the salts of lime, which slowly subsided like the mucous encorema, and had very much its appearance; this precipitate disappeared also like oxalate of lime in nitric acid. I evaporated some of the urine over a steam-bath, and again tested a strong solution of it, but no indication of an oxalate was manifest.

In order to exclude all possible sources of fallacy, I was desirous of making an application of the reagents directly to these minute bodies as they lay upon the slips of glass. To detach and collect them in their existing forms seemed to be out of the question; could I succeed in making microscopic chemistry answer my inquiries? To shut out all needless research, I adopted this process of negation; these forms could not be urea; for nitric acid was distinctly seen to form snaky cords wherever it ran over the urea, and quickly to dissolve the dumb-bells. They were not phosphate of lime, nor phosphate of magnesia; for they were readily soluble in water. Silicic acid they could not be, for obvious reasons. Chloride of ammonium so invariably crystallizes on a surface, in its peculiar manner, that the supposition of their being that salt could hardly be indulged. It *might*, however, be a phosphate, a sulphate, or a chloride.

I found on adding solution of nitrate of silver under the microscope, that in the midst of the copious precipitate, the dumb-bells in question disappeared as by solution. But this was not conclusive evidence of their not being a chloride; for, on proceeding with chloride of sodium in the same manner, I could see clearly many of the minute crystals *dissolve* in the fluid, which was doubtless the solvent water of the nitrate. I therefore thoroughly dried the urine on the glass, and swept over the surface a saturated solution of the nitrate. By this means, as the crystals adhered strongly to the glass, I succeeded in curdling nearly all the surrounding matter, without interfering materially with them. When the chloride was swept off, the crystals were

subjected anew to the same reagent without an immediate amorphous precipitate ensuing. I was satisfied, therefore, that the salt was not a chloride.

Was it a sulphate? I prepared another surface of the dumb-bells, placed the glass under the microscope, and by means of a delicate pipette, which I constructed for such purposes, I applied solution of chloride of barium. A more satisfactory result I could not have anticipated. Just where the dumb-bells lay, there decomposition and precipitation took place, so clearly in those crystals, and nowhere else, as to leave little else to be determined. The precipitate was washed, and, on trial, was found to be insoluble in the mineral acids.

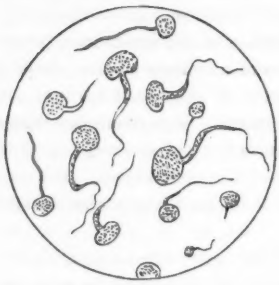
This salt, then, which, as I proved by many more experiments than I have referred to above, so constantly tended to the dumb-bell form, is unquestionably a *sulphate*, and probably one of the normal constituents of the urine.

I ought, perhaps, to remark that, in accordance with this determination, I always found it to be by far the most abundant salt on the glass. I sometimes procured a field of other forms of the most interesting character. Imitations of oak leaves, various other foliaceous resemblances, mathematically exact squares, pentagons, hexagons, octagons, and modifications of these, stellæ, beautiful rosettes, and numerous indescribable figures, all intermixed with the dumb-bells, and all arranged on the glass at nearly equal distances from each other, presented a very enlivening view. I wish to be understood that these were all different forms of apparently the same sulphate or sulphates; for I repeatedly converted the dumb-bells, by solution and recrystallization, into these figures; and also exclusively and perhaps more frequently into an exceedingly elongated rhomb.

After I had written nearly thus far, I incidentally met with the following remarks of Dr. H. Bence Jones, of England: "The sulphates of the urine would never be seen but for chemical tests." . . . "The sulphates may be immensely increased, and yet the eye may know nothing of the excess." . . . And again: "Not the slightest microscopic appearance or form of a crystal, whence it could be conjectured that sulphates were present in excess; yet the greatest increase may occur, or the greatest diminution take place; whilst, by mere ocular inspection, you know nothing at all about it. The sulphates in the urine never show themselves; they require to be made to appear; chemical tests are necessary to be certain of their presence." These observations, though rather loosely made, probably only mean that the sulphates, when in *solution*, cannot be detected by the eye; for, from my comparatively recent experience even, I should feel a moral certainty in being able to say that a given specimen of urine contained more or less of the sulphates, by ocular inspection, without the aid of "chemical tests;" not doubting that these would confirm my judgment.

During my inquiries I met with a curious phenomena, which it may be well to mention. In several specimens of urine submitted to the microscope,

Fig. 4.



the sulphate crystallized in the form of nearly perfect circular areas, and ellipses, and miniature limpet shells (patella of conchologists). On applying the chloride of barium to these figures, they were instantly converted into the forms represented in Fig. 4. I only once succeeded in witnessing the process of transformation; so nearly was it an instantaneous change. It appeared to me that the application of the chloride caused the primary bodies to burst at a single point; and, then, the liquid contents being shot out, were precipitated by the reagent.

Richmond, Wayne Co., Ia.

Art. XI.—*On Extractives of the Blood in the Urine; and on the Presence of Iron in the same Excretion.* By Jno. T. Plummer, M. D.

In one of the Lettsomian lectures of Dr. G. O. Rees, which appeared in 1851, in the *Medical Gazette*, the attention of the profession was first called to the fact that, in disease, the extractive matters of the blood were often found passing off by the urine, unaccompanied by albumen. The lecture has been repeatedly copied; and, so far as I have observed, copied without comment. Indeed, the subject seems to have attracted but little notice.

It was not until the reappearance of the lecture in *Ranking's Abstract* for 1852, that I became acquainted with the doctor's discovery; and it is only within a month or two past that I have devoted any time to the inquiry.

By a process of reasoning, which it is not necessary here to repeat, the doctor conceived it probable that the sanguineous extractives of salts might be effused from the blood into the urine, without or with albumen; and it occurred to him that, as one of the extractives of the blood was precipitable by tincture of galls, and the urinary extractives scarcely affected by it, he had in this reagent an efficient means of determining the question before him. He was not disappointed.

The result of his investigation he sums up as follows:—

1. That whenever albumen was present in quantity in the urine, it was always accompanied by the extractives of the blood in large proportion.

2. That the cases in which the extractives of the blood were in the urine in large proportion were generally those marked by debility.

3. That cases of anasarca, with disease of the heart, and unconnected with

albuminuria, also showed the extractives of the blood to be excreted by the urine in quantity.

4. That cases of chlorotic anemia and hysteria gave copious precipitates.

5. That the albumen in albuminuria and the blood extractives decrease in quantity together.

6. That in cases of anemia, the proportion of blood extractives observed in the urine diminished as cure was proceeding under the use of ferruginous medicines.

He conceives that notwithstanding the comparatively limited number of cases experimented on, he can safely assert that he has "proved beyond a doubt that in certain diseased conditions an important drain upon the blood is going on, of which we have been totally ignorant up to the present time."

I give below a summary of the few experiments I have made:—

1. The urine evacuated thirty minutes after dinner, by a man forty-five years of age, of rheumatic diathesis, but at the time in usual health, was tested with tincture of tannic acid; and it yielded *no precipitate.*

2. A few days afterward, at 10 o'clock A. M., the urine of the same person, apparently in the same condition, furnished a *considerable cloud* on the addition of the tannin. At 8 o'clock A. M., of the same day, the excretion yielded *no precipitate* to the reagent.

3. Some days after this, this man's urine, passed three or four hours after dinner, he being in good health, gave a *very marked precipitate* to the tincture.

4. After he rode for some hours in the cool air till 9 o'clock at night, and went to bed without his usual beverage (coffee), he was affected with nervous headache during the night. *No trace* of precipitate was found in his morning urine (urina sanguinis) on the addition of the tincture.

5. L. T., a married female, aged about twenty-six years, complained of some difficulty in urinating; no other apparent derangement of health; her only child nine months old. Her urine was small in quantity, pale almost as water, and loaded to a very turbid state with epithelial scales. This excretion after filtration yielded a *copious white precipitate.*

6. E. C., a maid of thirty years of age, with narrow chest and impaired health. Urine pale coloured, and charged with lithate of ammonia. Filtered, boiled, and filtered again; and applied the tannin. A *copious white precipitate* appeared.

7. A female, aged about twenty-eight years, married, has a very slender frame, and is decidedly consumptive. Has been taking the codliver oil for two weeks with acknowledged benefit to her cough. Urine amber coloured, depositing epithelial scales. After due preparation of the urine, the tincture of tannin was applied; but *no precipitate* followed for hours; the precipitate should be immediate. Two days after, her urine, evacuated before breakfast, was again tested, but with the same result, *no precipitate.* Had the oil any agency in suspending the escape of the extractives?

8. R. J., a man, forty-five years old, for years crippled with rheumatism, and now incapable of walking except very cautiously by the aid of crutches. Pulse nearly natural; appetite impaired; emaciated and feeble; urine small in quantity, and charged with lithate of ammonia; yielded a *moderate precipitate* to tannic acid. Prescribed iodide of potassium and colchicum; and tested the urine one week afterward; it was entirely neutral, free from lithate of ammonia, and furnished *no precipitate* to tannin.

9. A large-framed man, complained of aching in left lumbar region. Passes from three to six ounces of urine at a time, and frequently. Some specimens abounding in urate of ammonia; other specimens precipitating none. Tannin threw down *precipitates* in very obvious quantities. The patient was a hard-working farmer.

10. M., a middle-aged married female, of nervous temperament. Discharges of urine frequent, and sometimes copious. The fluid clouded with mucus, and pale, and rapidly becoming offensive. The patient's health generally bad. The urine, after filtering, boiling, and filtering again, yielded a *copious white precipitate.*

In all these cases due care was taken to test for albumen; and, if present, to remove it before adding the tannin.

11. Not long before I read Dr. Rees's remarks on this subject, I had a case of anemia, the most strikingly developed I ever saw. The patient, a young married woman, lived on the banks of the river in a narrow valley, often suffering from intermittent fever. Finally, the healthy hue of the skin began to disappear, and rapidly vanished; leaving the surface of a startling whiteness. In a few days afterward, the patient died. A better case for the application of Dr. Rees's views could not perhaps have fallen to my lot; but those views were not then known to me. I had, however, examined the urine for other purposes, a few days before her death, and still retained a portion of a spirit extract of it.

This extract was redissolved in distilled water and tested by tannin. A *very copious precipitate* followed. The test-tube with its contents was set aside. In the course of the next day, I observed, to my surprise, that the precipitate had assumed an evident purplish hue. On examining it daily afterwards, I found it became steadily darker, till it finally acquired a deep-blue colour. All these shades so closely resembled the stains produced by driving a nail into a new oak board, that I could not resist the conclusion that the tannic acid had found iron in the deposit, and had combined with it.

I accordingly poured off the supernatant liquid, washed the precipitate and dried it. It was then heated on a platinum spoon, to destroy the tannin and other organic matter present; a drop of dilute sulphuric acid added; heat again applied, just sufficient to evaporate the surplus fluid; and then a drop of distilled water, and afterwards the ferrocyanide of potassium in solution, furnished unmistakable evidence of the presence of *iron.*

Whence did this metal originate? I re-examined my reagents and found

them pure. There was a possibility of some salt of iron having accidentally got into the Berlin capsule in which the spirit extract had been evaporated. But aside from other reasons which rendered it highly improbable that the iron was adventitiously present, I subsequently examined fresh portions of the urine of some of the worst of the foregoing cases, and obtained the same white, and afterward purple discoloured precipitate; which, by the same process, yielded the same conclusive proof of the presence of iron.

Had the patient in whose urine I first detected this metal been using chalybeate medicines at the time, I should have strongly suspected that as the source of the iron. But there remains no doubt with me that, in at least certain morbid states of the system, iron is eliminated by the kidneys from the blood. I have not been able to obtain the same results from normal urine; and, indeed, from the absence of any reference, even as a trace, to the existence of iron in healthy urine, in the numerous published analyses by Becquerel, Marchand, Berzelius, Lehman, Christison, Simon, and others, it would appear that the metal is not present, at least in appreciable quantities. Dumeril, however, in his analysis in 1826, found in 1,000 parts of the mixed urine of several healthy persons, 31.8 parts solid residue, of which there was .18, or, if I calculate rightly, less than $\frac{57}{100}$ of one per cent. of phosphate of lime, sulphate of lime, and peroxide of iron. Von Bibra found a trace of iron in the urine of oxen and pigs; Boussingault and Van Setten found none in that of pigs; Vogel, a "little peroxide of iron and silica" in that of the rhinoceros; Chevreul discovered a trace of peroxide of iron in the urine of a camel; and Von Bibra, a trace in the urine of a horse.

Simon admits that the quantity of iron in the human urine is very minute, and can only be detected in the ash. Becquerel, however, "has never been able to discover iron in the incinerated residue of normal urine." This, as I have already stated, agrees with my own experience. And if, as we know, iron taken into the stomach in excess, passes off by the kidneys, we may be able to reconcile the contradictory results of different chemists, by supposing, in many cases, the use of iron vessels in culinary operations, especially in the preparation of acid fruits and herbs, as the pie plant, apples, tomatoes, sour dock, &c., would furnish that excess, which would be eliminated by the renal organs. This surplus of iron would of course appear in the most healthy urine; and the next day or two, under a different dietetic regimen, no iron would be detected in that fluid.

At the same time I do not see the necessity of resorting to this supposition in order to account for the opposite results of analysis. The food of the domesticated and wild animals, herbivorous and carnivorous, contains iron; and as this metal is required in but small quantities daily for the supply of the system, and is by no means rapidly assimilated, the least redundancy would be apt to appear in the urine of the healthiest animals; or, at least, in some of the excretions. In view of such and such like considerations, I think it is probable that iron is not a proper or uniform constituent of urine, but a

mere contingency; and, as such, its existence in the urine is perfectly consistent both with a state of health and of disease.

Donné, who states, in opposition to Becquerel, that normal urine always contains a certain quantity of iron, says that it disappears during chlorosis, and does not again make its appearance until after the use of chalybeate medicines. If the "ghostly paleness" of my chlorotic patient was due to the abstraction of iron from the blood in dissolved hemato-globulin or other constituent of that fluid, I would ask, through what more likely channel could it have passed away than the renal emunctories? During such a transit, the iron must of course exist in the urine; and I have no doubt will hereafter be found there, in this condition of the system, in accordance with the results of such an examination, already mentioned in this paper.

ART. XII.—*Obstetrical Cases.* By WILLIAM RANKIN, M. D., of Shippensburg, Cumberland County, Pa.

CASE I. *Arm and Shoulder Presentation, in which the Breech was brought down spontaneously.*—Sept. 10, 1830. I was called to see Mrs. B—— (in consultation with my friends, Drs. Lane and Hunter), who was in labour, with an arm and shoulder presenting. On arriving, I learned that the waters had discharged four days ago, and that the arm and shoulder of the right side had been in the passages for about twenty-four hours, and were now projecting from the vagina, much swollen and discoloured; the body of the child occupying the cavity of the pelvis in a bent or curved position. The woman was very much exhausted by the severity of her sufferings, and the pains had now entirely ceased except a little aching in her back.

We stepped out to consult as to what had best be done with the case, under the present circumstances, but had been absent only a short time before a messenger was sent to inform us the pains had returned, and our presence was requested forthwith. On making an examination on our return, I found that some change in the position of the body of the child had taken place since the last examination, and that now a reasonable hope might be entertained that spontaneous delivery by the breech would be effected. Acting on this expectation, during each successive pain, I assisted the expulsive efforts of the uterus, by using my fingers, hooked into the groin of the child, and soon found that the hips were gradually advancing, so that the delivery of a putrid child was in a short time accomplished.

The womb afterwards contracted well, so that the placenta was soon delivered in safety; and the woman had a favourable recovery.

CASE II. *Hand and Cord Presentation altered to the Head.*—June 23, 1833. I was requested to visit Mrs. T——, aged about thirty years, in labour at full term of her seventh child. I found her with feeble, inefficient pains, os uteri but slightly dilated, and pulse pretty full. I took away blood, from her arm, sufficient to make a decided impression on her system. After two or three hours, the pains became somewhat more active, and the os uteri more

relaxed, and seemed to be gradually dilating. Soon a sharp pain came on, by which the membranes were ruptured and the waters discharged; when, on examination, I found a hand and the funis presenting at the os uteri. Thinking that the parts were now sufficiently dilatable to admit my hand into the uterus, for the purpose of turning, which I expected would be necessary, and supposing that now was the best time for that object, before the waters would be more completely drained off; therefore, after oiling my hand and arm, I introduced my fingers into the lower part of the uterus, and found the head of the child so favourably situated, that I could so alter its position that it might be brought to the mouth of the uterus, and the hand at least, if not the cord also, kept back. I therefore attempted this manœuvre, and succeeded in dislodging the head from the right side of the pelvis and placing it in a situation more favourable for its entrance into its cavity; keeping, at the same time, the hand and cord back behind it. The next few pains brought the head sufficiently down to clear itself of the hand; and, fortunately, the cord gave no farther annoyance; and a healthy living child was born in about an hour. No farther difficulty was experienced with the case.

Case III. *A Case of Placenta Prævia, accompanied with Rupture of the Uterus.*—Dec. 7, 1835. About 10 o'clock last night I was requested to visit Mrs. C——, aged about forty years, who was in labour at full term.

On my arrival, I discovered that she had had, for two or more days, slight pains in her back, accompanied with uterine hemorrhage, to which latter she had been subject for the last two or three months, at times, and, according to her own account, for the last two weeks almost constantly.

When the premonitory symptoms of labour came on, which was early on the morning of the sixth, she sent for a neighbour woman, who occasionally officiates as midwife. She remained with her all day, hourly expecting the commencement of real labour; but was disappointed until a short time before I was sent for; when she had a single most violent pain, though not exactly like the pains she had at her other accouchements, during which she felt, she says, as if something had given way within her body. This was followed with great prostration, a disposition to vomit, great tenderness or soreness, as she expressed it, of the abdomen, and general coldness of the surface. Her pulse was now imperceptible, even in the temporal and carotid arteries; her skin bathed with a cold, clammy perspiration, with constant sighing and restlessness.

On hearing a statement of the case, I at once concluded that there must be a placental presentation, and that the present exhausted state of her system was the result of unavoidable hemorrhage, which opinion was confirmed by an examination per vaginam. The os uteri was but slightly dilated, and no part of the body of the child could be reached by the common digital examination. On laying my hand over the uterine region of the abdomen, I plainly discovered what I before suspected, that I had a case of rupture of the uterus, as well as of placenta prævia. The head and an arm could be distinctly felt, as if it were projecting through a rent in the uterus, and pressing against the abdominal parietes, which position prevented me from reaching, per vaginam, by the usual examination, any part of the child. What was now to be done? Were I to attempt turning the child and delivering by the feet, death would, during the operation, inevitably take place. This was evident, from the great prostration already existing, and from the want of tonic contraction of the uterus, which would be needed to close the vessels that would necessarily be ruptured during the operation. I therefore con-

cluded that there was no hope of saving my patient, and that death would, ere long, close the scene, and so expressed my opinion to her friends; but, at the same time, as well to satisfy the family and friends, as to relieve myself from the effects of public censure, which is so common on such occasions, I requested a consultation, which was readily acceded to. Dr. William A. Findley was sent for, and arrived in about two hours; when, after a careful examination, he agreed with me precisely, both with respect to the nature of the case, as well as to its evidently fatal character, and that it would be imprudent to interfere at all in its course by an operation.

She gradually continued to sink until about 8 o'clock A. M., when death terminated her sufferings.

I think there is no reasonable ground to doubt that in this case death was the result of unavoidable hemorrhage, kept up for two or three months, and afterwards, when the rupture of the uterus took place, of a more free discharge of blood into the cavity of the peritoneum, which was shown by the great tumefaction that took place in the abdomen, above the uterus, after this accident, and the discharge from the vagina then ceasing entirely.

Case IV. *Arm and Shoulder Presentation.*—On the evening of Dec. 21, 1844, I was summoned to visit Mrs. M——, six miles from my house, who had been in labour for two or three days, my friend, Dr. D. Smith, attending. On my arrival, I was informed by the doctor that the waters had been discharged early in the day, and that, about 3 o'clock P. M., the right arm and shoulder came down, which he was unable to return; but it continued to descend still lower. On examination, I found the arm and shoulder quite low down, and considerably swollen; the body of the child being, in a great measure, in the cavity of the pelvis.

On consultation with Dr. S. on our case, we agreed in opinion that it would be impracticable to turn the child and deliver by the feet, and that the only resources left were either to leave the case to nature, trusting that a spontaneous change of position might take place, so as to bring down the breech, or to open the chest, and thereby lessen the size of the child, and then use the crotchet or blunt-hook to assist the expulsive powers of the uterus to bring down the hips. The latter expedient was preferred, as the sufferings of the woman were so great that her delivery by the most speedy method was all-important. I accordingly opened the chest, using my penknife as a perforator, then broke down the thoracic and abdominal viscera, removing part of them out of the body, and during the pains, which were powerful, acted on the breech by means of traction with the blunt-hook. In this way we succeeded in bringing down the breech, and in a reasonable time effected the delivery. The placenta came away without any difficulty, the uterus contracting firmly; and in an hour or so the woman was as comfortable as could at all be expected, and her ultimate recovery was effected without any unfavourable symptom.

Case V. *Arm and Shoulder Presentation.*—August 15, 1845, I was called to attend Mrs. C——, who had symptoms of labour, being, as she supposed, between the seventh and eighth month of her first utero-gestation. The membranes had not ruptured when I made the first examination per vaginam, but were very much distended. The presentation could not be made out, the nearest part of the child being barely within reach of the tip of the finger. I ruptured the membranes and discovered that the left arm and shoulder presented. I immediately informed the lady and her friends

that, from the nature of the presentation, the child could not be born by the unassisted powers of nature, and that it would be necessary to introduce the hand into the uterus, and deliver it by turning; which was accordingly effected, after considerable difficulty, arising from the narrowness of the pelvis, and the rigidity of the external parts of generation. One only of the feet could be taken hold of, owing to the violent contractions of the uterus, excited by the presence of the hand in its cavity. The child was delivered with ease, although of pretty large size; but, during the operation, the funis, which was very small and delicate, was torn off. The whole lower part of the abdominal parietes appeared entirely abnormal, having very much the appearance of a thin placenta adhering closely and firmly to the abdomen, commencing as high up as the umbilicus; but, on close examination, it proved to be the contents of the abdomen, enveloped in a thin transparent membrane, resembling, in some degree, the peritoneum; the natural external integuments being entirely deficient.

The left hip-joint appeared much nearer to the axilla than the right. The placenta was adherent, and required, for its removal, the introduction of the hand into the uterine cavity; the woman, as is usual on such occasions, shouting all the time that she was dying. Her recovery took place speedily, and without any unpleasant symptoms.

Case VI. *Uterine Hemorrhage.*—May 1, 1852, I visited, in consultation with Dr. D. Smith, Mrs. E. Q——, who was ill from uterine hemorrhage, being between the eighth and ninth months of utero-gestation, with her second child.

The doctor informed me that, several weeks ago, she had considerable hemorrhage, which soon subsided; but returned about a week ago, and continued more or less ever since, though not at any time to an alarming extent, until yesterday, when it became profuse, and this morning was no better, without any signs of labour-pains coming on. I found, on my arrival, that her system was so greatly prostrated that the pulse was imperceptible in the one wrist and very feeble in the other.

The os uteri was dilated to the size of a fifty cent piece, but firm and unyielding. No real labour-pains—there being only, at times, a very distressing aching or soreness low down in the back, and just at this time no great hemorrhage. The placenta was discovered over the os uteri, and detached, on one side, from its connection with the uterus; the greater part of it being attached to the other side. We concluded, in the present state of the case, to use cold applications to the vulva, and exhibit three grains of sugar of lead and half a grain of opium every hour or so, or, *pro re nata*, to endeavour to restrain the bleeding, until a more dilatable state of the os uteri should take place, so as to permit turning, or sufficient pains should come on to bring down the head of the child, which we reasonably expected would arrest the hemorrhage, by pressing the detached portion of placenta firmly against the bleeding vessels; and to assist in effecting this result, we determined to use the secale cornutum, as soon as a supply of it should arrive from town, for which a messenger had been dispatched.

After waiting about two hours, our patient appearing greatly exhausted, and the os uteri having become dilated to the size of a dollar, we determined to try if an entrance could be made into the uterus, and turning effected; but, on trial, I found it impracticable to pass my hand through the os uteri, from want of dilatability; I however ruptured the membranes, thinking that by this means contractions of the uterus might be excited, and the head brought

down low enough to press against the bleeding vessels. I now found that by pressing with the points of two fingers against the detached portion of the placenta, and keeping it firmly fixed against that part of the uterus from which it had been separated, I could control the flow of blood pretty effectually; which we continued until the ergot arrived and had taken effect. It was given in doses of ℈i. every half hour, a little brandy and water being given at the same time.

After two or three doses had been given, to our great delight, uterine contractions began to take place, and the head of the child could be felt, during each pain, moving downwards, until at length, it pressed so firmly against the bleeding surface as to supersede the necessity of any longer use of the fingers for that purpose. The pain, subsequently, gradually increased, accompanied with a good deal of gastric disturbance, even to the extent of vomiting; and in about two hours after the exhibition of the first dose of ergot a still child was born. Its death may be attributed, I presume, partly to a prolapsus of the cord, and partly to the hemorrhage, which had nearly exhausted its vital supply from the mother.

By means of friction over the region of the uterus, it contracted so as to admit the delivery of the placenta in a short time. The woman was now exceedingly prostrated; her pulse scarcely perceptible; extremities cold; and vomiting and faintness very alarming. By the application of heat to the extremities, and by constant friction over the abdomen with spirits and water, alternate slight contractions and relaxations were kept up in the uterus, still accompanied with too much hemorrhage.

I introduced the hand into the uterus, hoping that its presence there might produce a more tonic contraction; but without effect. I at length carried up into its cavity a piece of alum, with a string attached to it, after which there was no more hemorrhage of any amount. This, no doubt, was effected by its acting locally, as a styptic to the bleeding surface, near the os uteri, when the contractions of the body of the uterus could not have much effect in closing the bleeding vessels. We now administered brandy and water, and panada with a little brandy and nutmeg, to produce reaction in the apparently waning powers of her system; and to allay irritability, a dose of tinct. of opium at short intervals. Her recovery was gradual, but without any subsequent symptoms sufficient to occasion alarm for her safety, and in about three or four weeks she was about through her house, superintending its concerns.

Case VII. *Inversion of the Uterus.*—Feb. 5, 1848. After a tedious and severe labour, Mrs. W—— was delivered of her first child; but notwithstanding the most energetic means to produce contraction of the uterus, it remained flaccid for a considerable time.

Ultimately, however, I presume from strong voluntary nisus forcing the abdominal viscera down upon the fundus, or from the weight of a large placenta dragging at the fundus of a relaxed uterus, or both united, an indentation of the fundus uteri took place, followed by a strong contraction of that viscus. When on taking hold of the cord, and making the usual gentle traction, the placenta came down; but adhering to the fundus of the uterus in an inverted state. I immediately detached it and pressed up the fundus uteri, with the hand, until it was restored to its natural situation. During its being inverted, as well as during the operation of reducing it, she suffered severely. No inflammation or other serious difficulty resulted from the accident to retard her timely recovery.

Case VIII. *Inversion of the Uterus.*—June 22, 1851, I attended Mrs. L——, in labour with her tenth child, which was born in about two hours after my arrival. Soon after, for want of tonic contraction of the uterus, such copious uterine hemorrhage took place that syncope was momentarily expected. Friction on the abdomen and cold applications were at once resorted to, which brought on some little contraction of the uterus. I then took hold of the cord to ascertain if the placenta would come away; but found it impracticable to deliver it, separation from the uterus not having as yet taken place. I therefore desisted from any farther efforts in that way, supposing that there probably existed adhesion of the placenta, as was the case in two or three of her previous accouchements. Thinking it imprudent to wait longer, the hemorrhage being great, I proposed introducing the hand into the womb to effect the separation and delivery of the placenta; but she obstinately refused permission, desiring to defer it a while longer. I then made farther efforts by frictions, and grasping the uterus with the hand, which caused some little uterine contraction, and after a short time a violent uterine contraction took place, attended with the bringing down of the placenta into the vagina; another and another such pain followed in succession, and the placenta was expelled, adhering firmly to the fundus of the inverted uterus. After separating the placenta, by gently insinuating the points of my fingers between it and the uterus, I pressed up the fundus, and with difficulty succeeded in returning it through the os uteri into the body, following it up with the hand until completely restored to its original position.

To allay irritation, I gave her forty drops tinct. opii. After the operation the uterus contracted favourably, and in two or three hours she appeared quite as comfortable as is usual after parturition, and her recovery was speedy and uninterrupted by any bad symptoms.

Art. XIII.—*Case of Cartilaginous Exostosis of the Condyle, Ramus, and Angle of the Lower Jaw, for which Resection with Removal of the Parotid Gland and Zygomatic Arch was successfully performed.* By Daniel Brainard, M. D., Professor of Surgery in Rush Medical College; President of the Illinois State Medical Society, etc.

W. S., æt. 32 years, formerly of good constitution, first perceived, in October, 1850, that the movements of the lower jaw were imperfect. Soon after, he noticed a swelling at the left side of the articulation. It was hard, unattended with pain or discoloration, and increased slowly. In February, 1852, an abscess formed upon the side of the neck, below the angle of the jaw, from which, when opened, a fistulous passage leading to the bone remained. Some months afterwards, another abscess formed in front of the ear, from which pus and saliva were discharged. Another formed upon the zygoma. During the whole of this time, the patient's health was not materially impaired.

He was treated principally with different preparations of iodine, internally and externally.

Present state, Jan. 19, 1853. There is a hard tumour, extending from the temple above below the angle of the jaw, and from the middle of the cheek to the ear. It is very prominent and irregular, and has on its surface three fistulous openings, corresponding to the situation of the abscesses. They were found to converge toward the articulation. The mouth could be but slightly opened, but enough to enable me to perceive that the tumour encroached upon the fauces and pharynx. There is pain most severe at night. When he eats, the saliva flows freely from the middle fistula. His health is good, no sallowness, and only a little emaciation, which dates from about a month.

Operation performed Jan. 27, 1853, with the assistance of Drs. Herrick, Freer, and Morfit, as follows:—

The patient having been placed under the effect of chloroform, a curved incision was made, commencing an inch above the zygoma, carried down in front of the ear over the angle of the jaw, and brought forward as far as the side of the chin. The flap was raised, and the integuments dissected up from the surface of the tumour behind.

The bicuspid tooth was extracted, the tissues detached from the jaw, and the bone divided with a chain-saw.

At this stage of the operation, it was necessary to allow the effects of the chloroform to pass off, as the flow of blood into the mouth and throat rendered it necessary that it should be constantly ejected.

The separation of the tumour below and within was next effected, as far back as the mastoid process, against which it was placed.

An attempt was now made to turn it outwards, but it was still almost immovable, and it was necessary to attack it from above.

The temporal muscle was divided, the zygomatic arch cut away at its anterior and posterior extremities, the masseter muscle divided, and a chisel and mallet used to separate the articulation; but the bones were so confounded together, that a part of the glenoid cavity was cut away. A lever being inserted behind the tumour, strong efforts were made to turn it forward, but without success. It was then attacked from within the pterygoid muscles, which were semicartilaginous, were divided at their attachment to the pterygoid processes. The mass was then raised from its position, and its remaining adhesion separated.

The vessels which gave blood were very numerous. The facial, lingual, external, carotid, and numerous smaller branches, required the ligature.

The ninth pair of nerves, the portio dura, and the dental branch of the lingual were divided.

On examining the wound, it was found to lay bare the cornu of the os hyoides, the mastoid and styloid processes, and the transverse processes of the cervical vertebræ. The internal jugular vein and the internal carotid artery were seen at the bottom of the wound. The temporal fossa was excavated,

the muscles of the tongue and pharynx laid bare. The parotid gland had been partially obliterated by pressure, and no trace of it now remained.

The wound was brought together with stitches, and cold-water dressings applied. A full dose of opium was administered. The operation, which lasted an hour, was well borne.

After treatment, no symptoms requiring especial notice occurred. The ligatures were all removed by the tenth day. The wound had adhered throughout, excepting at the point where the ligatures prevented.

Dec. 5. The patient's health is good. He can sit up and walk about, but requires an anodyne at night, on account of pain.

July 17. There still remains a fistulous opening, leading to the situation of the glenoid cavity, through which a small piece of bone has been discharged. The lower jaw has fallen so much to one side that the patient cannot masticate. He is emaciated, and appears to be suffering from inanition, resulting from insufficient nourishment. He still requires anodynes to procure rest at night. There is no appearance of return of the disease.

On examination of the tumour, the bone seemed greatly enlarged in every sense, the ramus of the jaw and the angle were four times their natural thickness, the condyle partially absorbed and altered in shape. This mass, which had the appearance of bone, and from which the periosteum could readily be separated, was so soft as to be easily transfixed with a sharp instrument. The surrounding tissues were infiltrated with serum, and had an appearance like firm jelly, but, after maceration, presented no appearance of morbid deposit.

Chicago, *August* 1, 1853.

Art. XIV.—*Extensive Laceration and Contusion. Recovery.* By G. S. Bryant, M. D., of Aberdeen, Mi. Communicated by Prof. C. D. Meigs.

324 Walnut Street, September 10, 1853.

Dear Sir: The accompanying papers, obligingly sent to me by Dr. G. S. Bryant, of Aberdeen, Miss., relate a surgical incident so extraordinary that I trust you will deem them worthy of a place in your valuable journal.

When I received the first paper, I was so much surprised by finding that a person could recover from such a wound, that I wrote to my correspondent, and requested him to revise his notes of the case, and make sure that no errors had crept into the history of the event; because I wished that, however accurate his views of it might have been, it should not appear in print liable to any doubt or criticism upon the diagnosis: at that time, I had heard nothing of Dr. Sargent's case, related at p. 355 of the present number. Dr. Bryant's

letter, dated August 27, appears to me to make it quite clear that no error of the diagnosis did occur, and I therefore, with entire confidence, and without farther comment, place it in your hands, soliciting for it a place among the medical and surgical facts that interest your numerous readers.

I rest very truly, your obedient servant,

CHAS. D. MEIGS.

Dr. I. Hays,
Editor of Amer. Journal, &c.

"During my residence in Amherst County, Va., in 1850, I was called, on the 25th of April, at about 3 P. M., to see Phœbe, a slave, æt. 25, black, smooth skin, small stature, and the mother of three healthy children.

"On arrival, learned that, at about 2 P. M., patient had leaped from the height of ten feet, and alighted upon a tobacco-stick, which had been driven firmly in the ground and was concealed by some loose fodder. The stick was four and a half feet long, and one inch square). The vagina was entered without doing much injury to the vulva; the stick passed up the canal, and perforated its walls on the right side of the os uteri, entered the cavity of the abdomen, and passed in an oblique direction upwards, and finally lodged against the twelfth and eleventh ribs of the right side.

"4 P. M. Hemorrhage quite subsided, but at the time of accident it was very profuse from vagina; pulse 120, and very small; extremities cold; countenance anxious; pain in abdomen distressing; nausea and frequent vomiting; mind clear.

"*Treatment.*—℞. Tinct. opii ʒj; brandy ʒij. To be given at once, and repeated every hour or two until reaction, or relief was obtained; warm applications to the extremities, and a poultice to the entire abdomen, constituted the principal treatment.

"26*th*, 4 P. M. Slept during the latter part of last night, and has been sleeping occasionally during the morning, but is not altogether free from pain. Reaction took place about 12 o'clock last night; pulse now 110, quick and hard; abdomen much swollen, hard, and tender to the touch; complains a good deal of the side, about the point where the stick lodged, and the lower region of the liver. The swelling and contusion externally are considerable, and she cannot bear the part to be handled; vulva very much inflamed; passes water with much pain and difficulty.

"Dover's powders, grs. x, at bedtime, to be repeated during the night if necessary; effervescing draught every two hours; continue poultices.

"27*th*, 10 A. M. Rested pretty well last night; pulse 112, hard; skin dry; abdomen very much distended and painful to touch; eyes very red; has vomited some bilious matter; passes her water still with difficulty; bowels have not been moved since accident. ℞. Hyd. chlo. mit. grs. vj; rhei, grs. x. Make iv pills; to be given at once, and followed by an enema of soap and water in six or eight hours, if no action is had by this time; ano-

dynes and poultices continued; vulva to be frequently cleansed with Castile soap and warm water.

"28*th*, 11 A. M. Pulse 100 and softer; has had several bilious discharges; some discharge of pus from vagina; no other material change. R. Blue mass, grs. xvj; Dover's powder, grs. xi. Make into viij pills. One to be given every six hours. Continue effervescing draught, poultices, &c.

"29*th*, 10 A. M. Abdomen enormously distended, dull on percussion and painful on pressure; bowels have been moved twice, discharges of bilious character; pulse 118, small and quick; rested badly last night; skin dry, tongue coated over with a brown fur. Continue treatment.

"30*th*, 10 A. M. Had, about 2 o'clock last night, a copious discharge of grumous blood from the bowels, which discharge continued to occur every hour or two until 9 A. M. this morning; could not ascertain the exact quantity, nurse supposed it to be from seven to eight quarts; this is no doubt a too liberal estimate. Abdomen has gone down very much; pulse 130, small and feeble; skin dry and cool; she seems quite exhausted; vaginal discharge continues. Ordered half a grain of sulph. morphia at once; infusion of serpentaria ℥j, to be given at intervals of two hours. Continue pills and poultices, but discontinue draught.

"*May* 2, 9 A. M. Abdomen much flattened; had two bilious discharges yesterday, free of blood; pulse 112, small and soft; vaginal discharge more profuse; passes her water freely; skin dry; has some appetite. Continue treatment.

"4*th*, 10 A. M. Has done well since last visit, until last night. Nurse thinks she was alarmed by a conversation which took place in the room upon the subject of death and her probable recovery. After an hour or two she was better, and again expressed her belief that she would get well, never before having any doubt about her recovery. Bowels have been moved once this morning; biliary secretions improving; skin continues dry; pulse 108; appetite better. Continue treatment; is allowed a more nutritious diet.

"6*th*, 10 A. M. Pulse 108, soft; skin moist; bowels in good condition; appetite good; vaginal discharge diminishing; complains of little else than soreness in the right side.

"Ordered tonics and better diet; mercury discontinued; no appearance whatever of its constitutional effects.

"8*th*, 12 M. Convalescing. Continue tonics.

"11*th*, 11 A. M. Convalescing rapidly.

"Recovered fully by the middle of June following."

"Aberdeen, August 27, 1853.

"Dear Sir: Yours of the 14th inst. is before me, and I hasten to reply to it. I thank you for the kind suggestion with regard to my article. I see now that the case was reported with too little care, and it occurred in this way: After a thorough investigation of all the circumstances connected with the

accident, I was so fully satisfied of the truth of the statement made by the woman, that I only noted the fact in my case-book at the time. On looking over the book the other day, I turned to the case, and thinking it would be of great interest to you, I copied and forwarded it at once.

"I will now state from memory the account given me by the patient at the time of my first visit, and which was frequently reiterated by her to me afterwards. She said that, on jumping upon what she supposed the loose fodder, she thought her belly was torn open, but found that she was hanging upon something, and that it had entered her body, and was resting against her ribs on the right side. She felt it distinctly with her hand, and in trying to extricate herself, everything turned black, and when she came to her senses, she was lying down with the stick driven in her body. Being alone at the time, she with much difficulty succeeded in getting it out herself, which was followed immediately by a gush of blood, which flowed freely for some minutes.

"On first hearing this account, I doubted the possibility of the extent of the penetration. I had the stick brought to me, and on critical inspection I was satisfied the stick had entered her body eleven and a half or twelve inches; it was thickly besmeared with bloody mucus twelve and a half inches, and its terminus was abrupt and distinct. It was quite clear the stick was not stained by the fluid running down upon it.

"The vagina being perforated; the peritoneal inflammation which followed, and particularly the path of disease extending from the pubis obliquely across the belly to the ribs on the right; the swelling, pain, and soreness in the side; the discharge of blood from the bowels; and the hepatic inflammation; all justified the conclusion, in my opinion, that the account given by the patient is correct.

"Now, doctor, if you have a *doubt* whether the evidence here given is sufficient to satisfy *every mind*, I *wish* you not to publish my paper. I should feel very uncomfortable under criticisms and doubts of its truth by the profession.

"I leave the matter with full confidence in your hands, and beg that you will feel entirely at liberty either to destroy the article or to keep it for your private use, should you see fit.

"I fear I have already troubled you unnecessarily, and will bring this to a close, by assuring you, dear sir, that I am, with the highest regard,

"Yours, most respectfully G. S. BRYANT."

"Dr. C. D. Meigs, Philadelphia."

REVIEWS.

ART. XV.—*A Practical Treatise on the Diseases of Children.* By J. FORSYTH MEIGS, M. D., Lecturer on the Practice of Medicine in the Philadelphia Medical Association; Fellow of the College of Physicians of Philadelphia; Member of the Academy of Natural Sciences of Philadelphia; and of the American Philosophical Society. Second edition, revised and enlarged. Lindsay & Blakiston, 1853: 8vo. pp. 711.

IT is with feelings of pleasure that we notice the appearance of another work upon the diseases of children. These works are numerous, it is true, but there are few that can entirely be relied upon. The diseases of infancy and childhood are so obscure, require so much patient investigation, so thorough a knowledge of the organs, both in their healthy and morbid conditions, and of the various modes of detecting the latter, and of the causes which induce them, that we venture to assert that no treatise upon the diseases of children, satisfactory both to the practical and philosophical physician, has been written. Within a few years, Germany, France, England, and the United States have each produced important works upon this subject, those emanating from our own country being certainly not inferior to similar productions of other countries. Among the best of our own, we rank the work of Dr. Meigs, which, throughout, appears to be characterized by a love of truth, and an earnest desire, on the part of the author, to avail himself of every source of information within his reach. The results he has arrived at are based upon much personal observation, he having, as he remarks, carefully noted 1180 cases of disease in children.

The diseases treated of by Dr. Meigs are divided into five classes, viz: Diseases of the Respiratory Organs; of the Digestive Organs; of the Nervous System; Eruptive Fevers; Diseases of the Skin, and Worms in the Alimentary Canal. This arrangement answers well enough for practical purposes, giving precedence to those affections of more frequent occurrence; but does not include all the diseases of children—those of the heart, for instance, which are often met with in practice. The first part of the work is devoted to the clinical examination of children, which will repay an attentive perusal. We propose to do little more than present an abstract of this work.

Spasmodic Laryngitis, or *Spasmodic False Croup*:—

"This is the disease commonly called in this country croup, or by those who make the distinction between it and pseudo-membranous laryngitis or true croup, spasmodic croup. It is known also by the names of false or pseudo croup. I prefer the term spasmodic laryngitis, because it is expressive of the essential character of the disease. It is the stridulous laryngitis of Guersent and Valleix, the stridulous angina of Bretonneau, the acute asthma of infancy of Miller, and the spasmodic croup of Wickhmann, Michaelis, and Double. It is not the laryngismus stridulus, described by the English authors Ken, Ley, and Marsh, with the name of the thymic, or Kopp's asthma of the Germans, and spasm of the glottis of the French. It is called by Dr. Wood, in his work on the Practice of Medicine, catarrhal croup."

Dr. Meigs divides this disease into two forms—the mild and the severe, and believes it to be hereditary in certain families.

The following table of diagnosis is altered by Dr. Meigs, from one given by Rilliet and Barthez:—

MILD SPASMODIC LARYNGITIS.	PSEUDO-MEMBRANOUS LARYNGYTIS.
Begins with coryza, and hoarse cough, or more frequently with a sudden attack of suffocation in the night. Fauces natural, or merely slight redness, as in simple angina.	In epidemic form, begins as pseudo-membranous angina. In sporadic form, invasion of slight hoarseness for a day or two. There is fever, increase of the hoarseness, with hoarse, croupal cough; in half the cases, pharyngeal exudation, and a little later, paroxysms of suffocation.
After the paroxysm, the child seems well; the fever disappears, or is very slight. Voice natural or only slightly hoarse; not whispering.	The fever continues; stridulous respiration; prolonged and difficult expiration; cough hoarse and smothered; voice hoarse and whispering.
If the paroxysm returns, it is during the following night, and it is less severe; the hoarseness disappears; the cough becomes loose and catarrhal.	The dyspnœa and suffocation increase; the voice and cough are smothered or extinguished; stridulous respiration persists.
Duration seldom more than three days.	Duration seldom less than five or six. The hoarseness continues for several weeks.
Very rarely fatal.	Fatal in the majority of the cases.

The treatment of this disease is well known. When the dyspnœa is very urgent, or when other means fail to produce emesis, I have found nothing so effectual, says Dr. Meigs, as the powdered alum, in doses of a teaspoonful, mixed with honey or molasses. A simple and good method of treating the paroxysm is that recommended by my father in the paper referred to. It is to direct a small teaspoonful of powdered ipecacuanha to be diffused in a wine-glassful of water, of which mixture doses of a teaspoonful are to be given every ten, fifteen, or twenty minutes, according to the urgency of the symptoms. The following remarks in regard to pseudo-membranous laryngitis, or true croup, we think are judicious:—

"In the study of the treatment, it will be necessary to rely chiefly upon the works that have been published since the distinction between the two forms of croup has been correctly drawn; for it is impossible to place much dependence on the assertions of previous writers, inasmuch as their opinions in regard to the effects of treatment must have been formed from indiscriminate experience in two very opposite maladies. It is only necessary to recollect the enormous difference in the mortality of the two affections to be convinced that the success of any plan of treatment in the one is no fair argument for its probable success in the other. Thus, M. Guersent has seen a hundred cases of spasmodic laryngitis without a single death; while he believes that of ten cases of pseudo-membranous disease, scarcely two can be saved. I have myself attended and kept a record of 89 cases of spasmodic croup, and have seen a considerable number of cases besides, of which I have no notes, without a single death; whilst of 17 cases of true croup that I have met with, 8 proved fatal. The most important objects to be held in view in this treatment are the following: To prevent, if possible, the formation of false membrane; after its production, to cause its dissolution, or render it less coherent; to provoke its expectoration; to prevent its reproduction after it is once expelled; to subdue the inflammatory diathesis which exists, and to allay the painful symptoms."

In regard to the treatment in croup, Dr. Meigs appears, with the French physicians, to place less value upon bloodletting than most practitioners in

this country, and to rely chiefly upon emetics, of which he gives the preference to alum, and also speaks favourably of the turpeth mineral or subsulphate of mercury. We think, however, that the views of Dr. Condie in this respect are more sound, who says that the practitioner who, in violent cases, repels this important measure, and places his hopes on any other remedy or combination of remedies, will have but little reason to flatter himself upon his success in the management of this disease. Certainly, we should be unwilling to omit the use of the lancet in a well-marked case of membranous croup. Of ten cases, in which the disease began in the larynx, depletives were used by Dr. Meigs, and six recovered. The two cases bled to the largest amount (three times each) recovered. *Emetics*—M. Valleix has demonstrated their importance more fully than any other writer. He states that, of 53 cases of the disease, tartar emetic and ipecacuanha were chiefly relied on in 31, of which 15 were cured; whilst of the 22 others in which they were parsimoniously given, not a single one recovered. He gives the facts in regard to those cases which are highly interesting and important. Thus, of the 31 cases treated with powerful emetics, false membranes were ejected during the efforts of vomiting in 26, and of these 15, or nearly three-fifths recovered. In the 5 others of the 31, on the contrary, no membrane was expelled, but they all terminated fatally. Again, of the 22 cases in which emetics formed but a secondary part of the treatment two ejected false membrane, and of these one recovered; while of the 20 others, in which no false membrane was expelled, not one escaped.

The following is the summary of the treatment of membranous croup, as recommended by Dr. Meigs:—

"My own conclusions in regard to the treatment are, that bloodletting is a valuable remedy, when resorted to in proper cases and at the proper moment. In the form which begins as angina, and which is generally epidemic, it ought to be used with more caution than in that which commences as laryngitis. In the latter form, which is usually sporadic, it ought to be used freely, especially in vigorous and hearty children. I will suggest the following plan of treatment to be pursued in children about or over two years old, when we are called in good time: to take from the arm three or four ounces of blood, once, twice, or three times in two days, according to the strength of the child, and the degree and obstinacy of the fever. In both forms of the disease, emetics, and I would recommend alum in preference to any other, should be given once at least, very often twice, and in violent cases, three or four times in the twenty-four hours, so as to produce vomiting attended with a good deal of effort. To give at the same time from one to two grains of calomel with a quarter or half a grain of Dover's powder, every two hours, taking care not to give a dose for an hour before, nor after the time selected for the exhibition of the emetic. In cases in which there is loud stridulous respiration, heard both in the inspiration and expiration, in which previous treatment has had no effect, and in which there is threatening of speedy death, we may give two grains of calomel every hour, until three or four doses have been taken, and direct the exhibition of an alum emetic, after the last dose, or resort to tracheotomy."

In regard to tracheotomy, he remarks:—

"For my own part, I am clearly convinced from what I have seen of the operation, from my reflections upon the nature of the disease and operation, and from the results obtained by the French physicians and surgeons, that tracheotomy is, to say the least, entirely justifiable, if not peremptorily indicated, under certain conditions of croup; for I think it has been shown, by citations of the opinions of persons experienced in the operation, and by statements of the results obtained from it in France and this country, that it does really offer some additional means of safety to the patient, after the failure of all proper medical means. That it has saved the lives of some, at least, of the numerous subjects upon whom it has been performed, which would otherwise have been

lost, no reasonable and unprejudiced person can, it appears to me, deny. That some who have been operated upon might have recovered without it, I do not doubt; but the uncertainty as to the absolute necessity of resorting to it in any individual case, is not greater, probably, than that which exists in regard to a great many other surgical operations, and to many medical applications.

"It has also been shown, I think, that the operation is, in itself alone, but slightly dangerous to life, at least when performed by a firm and dexterous hand. This removes, of course, the only very serious objection to it, since if the risk from the incision add but little to the danger of the patient, we may venture a resort to it for its probable chance of good, even though that chance be still one only moderate in degree."

If we decide that tracheotomy is a justifiable operation in croup, it becomes all-important to determine the period of the disease at which we should have recourse to it. For the observations of Dr. Meigs upon this subject, which are full of interest, we refer to the work itself. We pass over the chapter on collapse of the lung, and the observations upon the symptoms and pathology of pneumonia, which are well understood. In regard to the treatment of the latter disease, he remarks:—

"It is a common idea that scarified cups are too powerful to be applied to young children; but this is not the case where they are properly selected. The cups should be much smaller than those used for adults, and the scarification of a size to suit the cups; with these precautions, it will be found that the operation of cupping a child within the year, and still more from the age of a year upwards, is less annoying to the patient, and more expeditious than that of leeching. I would, on this occasion, strongly advise country practitioners, who often complain of the difficulty or impossibility of procuring good leeches, to provide themselves with cups of a size suitable for children, to be used in place of the leeches."

We have long been in the habit of recommending the use of cups in the pneumonia of children, and agree fully with Dr. Meigs, that, under certain circumstances, they are preferable to leeches, and that no reasonable objection can be made to their use. Dr. Meigs is of opinion that the doses of antimony usually advised in the treatment of the pneumonia of children, are much too large. His practice has been, after depletion, to give the remedy in doses of $\frac{1}{30}$th, $\frac{1}{4}$th, and even $\frac{1}{6}\frac{1}{0}$th of a grain every hour; and, even in this quantity, it often produces vomiting, or painful nausea. "A very convenient and satisfactory mode of exhibiting antimony to children, is to give the vinum antimonii combined with sweet spirits of nitre, in the doses of two, three, or four drops of the former, with eight or ten of the latter, repeated every two hours; the proportions of the former to be increased or diminished as the stomach is found to tolerate it. To infants within the year antimony ought to be given, it seems to me, with the greatest caution. Many, at that age, do not tolerate more than from half a drop to two drops of the wine every two hours; of expectorants, the most convenient is the syrup, of which from ten to twenty drops may be given every two hours, at four years of age; from five to ten drops between one and three years; and from one to three drops to infants of two or three months. It is useful to combine sweet spirits of nitre with the syrup in doses to suit the age.

Either after or without the emetic, I have found decided benefit in such cases from the administration of decoction of seneka and spiritus mindereri. For a child two years old, I direct two drachms each of seneka and liquorice root, to be boiled in a pint of water down to twelve ounces, and strained. A teaspoonful of this decoction is to be given every two hours with twenty drops of the spiritus mindereri. Dr. Meigs states that, since the spring of 1845, when he was led to make frequent use of mustard poultices and pediluvia in

the treatment of the bronchitis, and pneumonia of measles, he has rarely employed blisters in the treatment of pneumonia. Two parts of Indian meal, and one of mustard, for young children, and, for those who are older, equal proportions, are to be mixed with some water, and spread thickly like a poultice on a piece of flannel or rag five or six inches square. This is to be covered with fine muslin, linen, or gauze, and applied first over the back, and then the front of the thorax. It may remain from fifteen to forty minutes, or until the child cries or complains, or until the skin is reddened. The mustard foot-baths may be employed at the same time with the poultices. These applications are useful whenever the oppression is very great; and, when resorted to in the evening, they often allay irritability, and dispose the child to sleep. The number of applications to be made in a day, must depend on the urgency of the symptoms. I have employed them from once a day to every two or three hours.

Under the head of Bronchitis, Dr. Meigs remarks:—

"I believe, myself, from what I have seen in this city during the last eleven years, that the most fruitful cause of bronchitis, and also of pneumonia, croup, and angina in young children, is the style of dress almost universally used for young children. The dress is entirely insufficient. It consists usually of a small flannel shirt, cut very low in the neck, scarcely covering the shoulders, and without sleeves; of a flannel petticoat, a muslin petticoat, and an outer dress made in nearly every case of cotton. The dress, like the flannel shirt, is cut low in the neck, is without sleeves, and fits very loosely about the chest, so that not only are the whole neck, the shoulders, and the arms exposed to the air, but, in consequence of the looseness of the dress about the neck, it is fair to say that the upper half of the thorax is also without covering. In the infant, from birth to the age of six or eight months, the dress is made long, a wise provision so far as it goes, but from the time the skirts are shortened, up to the age of four or five years in boys, when happily the time for boys' clothes arrives, and, throughout childhood in girls, the trunk of the body and the arms are dressed, or rather, left undressed, as above described. But, not only are the neck, breast, and arms left bare, but in many children the greater part of the legs are also kept uncovered, or, at least, short stockings, scarcely rising above the ankles, and muslin or sometimes Canton flannel drawers, not reaching, or scarcely reaching to the knees, leave exposed to the air a large proportion of the cutaneous surface of the lower extremities. Now, in this dress, the child passes the day in a house, the sitting-rooms of which are heated usually to 68° or 70°, but in which the entries, and sometimes the parlours, are frequently at a temperature of 60°, 50°, or even lower, as I myself have tested with the thermometer. And not only are the entries and parlours, and indeed all the rooms, saving the one or two in constant use, frequently at the temperature just mentioned, but the air of the nursery itself is often allowed, through the negligence of the servants, and especially early in the morning, to fall to 60° or 58°, or possibly lower still.

"That this style of clothing is not correct, is proved by the simple facts that children, who are dressed nearly the same in summer as in winter, suffer scarcely at all from colds in the summer season, when the thermometer seldom ranges below 76°, and is usually above that point; and also by the fact that adults have been driven, by long and almost forgotten experience, to wear clothing twice or three times as warm as that which they put upon their children. How constantly do we see the strong and fully-developed man comfortably enveloped in a warm long-sleeved flannel shirt, woollen or thick cotton drawers, and cloth pantaloons, vest, and coat, in the same room, and in the same temperature, with the little, often puny, pale, and half-naked child. But it is almost impossible to make people understand that children need as much clothing as themselves. They always insist upon it, that, as the child passes the greater part of the day in the house, it cannot require as much clothing as the adult who is obliged to go out and face the weather, forgetting, or refusing to see, that the former wears less than half, or probably not more than a fourth

as much covering as the latter, and that the adult, when in the house and in the same rooms as the child, finds his one-half or three-fourths warmer clothing not at all superabundant or oppressive.

"I have repeatedly had patients to get well of chronic catarrhal and laryngeal coughs, and to cease to have, as before, frequent recurrences of these disorders, under the simple treatment of a long-sleeved and high-necked merino or flannel shirt, long woollen stockings, and stout Canton flannel drawers coming down below the knees, and that too, after the most patient and assiduous, and sometimes over assiduous, trials of drugs, diet, and confinement to the house, had entirely failed of any permanent good effects. The fact is, that though there are some few children who can bear the dress above described without injury, there are a great many more who, while they wear it, either suffer all winter long from frequently-repeated attacks of cold, in the shape of croup, chronic laryngeal irritation with cough, chronic pharyngitis, bronchitis, acute or chronic, or more rarely pneumonia; or, if they escape these direct effects resulting from the constant and rapid waste of their caloric, they are rendered more pale, thin, and delicate-looking than they would be were their vital forces husbanded by warm clothing, instead of being wasted in the constant struggle to keep up the heat of the uncovered body at the natural point."

Three forms of this disease are described by Dr. Meigs: 1. *Acute bronchitis*, of moderate severity; 2. *Acute suffocative bronchitis*, or catarrhus suffocativus, the congestive catarrhal fever, described by Eberle and by Dr. Joseph Parrish of this city; 3. *Subacute or chronic bronchitis*. Dr. Eberle, however, confounds bronchitis with pneumonia under the titles of catarrh, catarrhal fever, acute bronchitis, and pleuritis. The difference in the character of the dyspnœa in bronchitis and pneumonia, under the head of diagnosis, pointed out by Dr. Gairdner, and confirmed by the observations of Dr. Meigs, are of much practical importance. Of the above number of cases of bronchitis, of which notes were kept by Dr. Meigs, but five proved fatal. We recommend the chapter on bronchitis as worthy of close attention. The treatment throughout is marked by a thorough knowledge of the disease in its various forms, and the most judicious and careful directions for its management.

Pleurisy.—Of this disease notes were kept by Dr. Meigs of sixteen cases. He describes two forms of it, the *acute* and *chronic*. According to Dr. Meigs, pleurisy is a rare disease under five years; after that period, it becomes more frequent. Dr. Baron[1] states that, of 429 autopsies which he made, he found the traces of ancient pleurisy in 141, and 248 times recent pleurisy. The same author observes that, of 90 cases of pleuritic alterations, there were in 15 cases coincidence of peritoneal inflammation; more frequently sanguinolent in 20; effusion within the pericardium, 17 times sanguinolent; in 13 a serous effusion or sero-sanguinolent in the arachnoid, or beneath this membrane, or in the ventricles of the brain; in 3 sanguinolent infiltration in the cutaneous cellular tissue; in 1 a sanguinolent effusion in all the synovial membranes; in 5 a sanguinolent effusion in all the serous membranes. Idiopathic pleurisy is stated by Dr. Meigs to be more frequent in the right side than the left. Dr. Baron says that pleurisy in the right side is more frequent in childhood than double pleurisy, and than that in the left. The latter author met with pleurisy in the right side 177 times; of the left, 102; on both sides, 98.

In regard to the frequency of pleurisy at different ages, the following remarks are made by Dr. Baron, who appears to have had the best opportunity for the study of this disease in children:—

[1] Thèse pour le Doctorat en Médecine, presentée et soutenue le 10 Mars, 1841. Par Ch. Baron, Docteur en Médecine. Interne laureate (Médaille d'or) des Hôpitaux Civils, Membre de la Société Anatomique et de la Société Médicale d'Observation. De La Pleurisie dans l'Enfance.

Age.—Pleurisy may affect the fœtus. Mauriceau cites examples. We owe one to Billard, one to M. Veron, and another to M. Cruveilhier. After birth, this disease becomes more common. In several children observed by Dr. Baron, Sr., it commenced almost with birth. "The different periods constituting childhood do not present an equal disposition to pleurisy; and this explains the contradictions we find in authors in regard to the frequency of pleurisy in childhood, each having observed children of a different age. Thus M. Valleix, who regards pleurisy as a rare disease in childhood, bases this opinion upon the observations of the newly-born; M. Rilliet and Barthez, with whom, on the contrary, this disease is very frequent, have drawn this conclusion from the examples of children much older."

The following is a table given by Dr. Baron, of pleurisy at different ages:—

Of 1 day	4	From 6 to 7 years	15
From 1 to 5 days	40	" 7 to 8 "	11
" 5 days to 1 month	84	" 8 to 9 "	10
" 1 to 6 months	24	" 9 to 10 "	12
" 6 months to 1 year	12	" 10 to 11 "	9
" 1 to 2 years	15	" 11 to 12 "	16
" 2 to 3 "	46	" 12 to 13 "	10
" 3 to 4 "	30	" 13 to 14 "	3
" 4 to 5 "	21	" 14 to 15 "	9
" 5 to 6 "	10	" 15	6

Pleurisies in children, from 1 day to 1 month	128
" " from 1 month to 1 year	36
" " from 1 year to 15 years	233

He also states that he has found 48 double pleurisies, 71 pleurisies of the right side, 237 of the left, in children from 1 day to 1 month; 9 double pleurisies, 19 pleurisies of the right side, and 6 of the left, in infants from 1 month to 1 year; 84 double pleurisies, 48 pleurisies of the right side, and 30 of the left, in children from 1 to 15 years.

Pleurisy, it is said, observes Dr. Meigs, occurs more frequently in boys than in girls. Of 15 cases, in which he noted the sex, 10 occurred in boys, and 5 in girls.

Dr. Baron enumerates 309 cases of pleurisy in boys, and 204 in girls. I have met with it, he says, more frequently in boys than in girls, so that the number of the first exceeds that of the latter by one-fifth; but the number of male children, considered in general, exceeding that of children of the other sex, it cannot be affirmed that this difference in the frequency of the disease does not depend in a great degree upon this last circumstance. However, as the proportion of births of male children exceeds that of female by one-sixth only, it may be admitted that the condition of sex is not altogether without influence.

It occurs for the most part in delicate children. Inflammation of the pleura is almost always associated, according to Dr. Baron, with that of the lung. I have met with, he also remarks, pleurisy as often in children from 2 to 6 years as in those from 6 to 15 years, a result which does not confirm that obtained by MM. Gerhard and Rufz, inasmuch as these observations show that the pneumonia of children from 2 to 6 years is almost never complicated with pleurisy, whilst this complication is very frequent in children from 6 to 15 years. Pleurisy may be complicated with various diseases, of which pneumonia is the only one noticed by Dr. Meigs. The following are mentioned by Dr. Baron: abscess of the lung, gangrene of the lung, pulmonary apoplexy,

infiltration of the lung, bronchitis, croup. Its coincidence with croup, he has observed three times; and M. Guersent, who has had a large experience, observes that authors have not sufficiently insisted upon the complications of croup with pleuro-pneumonia, which, however, are very frequent. To these complications he adds, laryngitis, pertussis, chronic asthma, coryza, pulmonary tubercles, tubercles of the bronchial glands, abscess of the mediastinum, pericarditis and carditis, phlegmonous inflammation of the parietes of the chest, affections of the digestive organs, gangrene of the mouth, gangrenous and pseudo-membranous angina, muguet, intestinal worms, diseases of the liver, jaundice, peritonitis, Bright's disease, affections of the brain, anasarca, gangrenous affections, measles, scarlatina (this disease is a cause of pleurisy, either immediately or mediately, through Bright's disease, which follows it), small-pox, varioloid, varicella, vaccine, chronic cutaneous affections, scrofulous and rheumatic affections, scurvy, and surgical diseases. According to Dr. Baron, pleurisy has been observed comparatively in the winter months 65 times, in spring 57, in summer 37, in the fall 61. The duration of the disease appears to have varied from 1 day to 15 months. The duration of the disease is shorter in proportion as the child is younger. The average duration in children from 1 day to a month, is 6½ days; in those of a month to two years, of 37 days; in those of 2 years to 15 years, 49 days. The mean duration with boys is 34½ days, according to Dr. Baron; in girls, only 10½ days. This, however, may be the effect of chance. The mean duration, in robust children, is 26 days; in delicate children, 33 days. The mean duration of pleurisies in children, without complications terminating by death, is 24 days; that of pleurisies complicated with pneumonia, 8 days; of pleurisies with coincidence of abdominal affections, 20 days. The mean duration of pleurisies in the tuberculous is 65 days. In regard to the adhesions which result from pleurisy, it is remarked by Dr. Baron, that they might be supposed to be formed after the disease has existed a length of time; but this is not the case. It is not rare to find adhesions to occur after the second day; they are frequent the third and fourth day of the disease. Very little space is devoted by Dr. Meigs to the diagnosis of this affection. The only two diseases which he alludes to as being likely to be confounded with it are pneumonia and hydrothorax.

Dr. Meigs states that chronic pleurisy is generally a serious and not unfrequently a fatal disease. Dr. Baron observes that when pleurisy is prolonged, its prognostic, in general, becomes less grave. Such, at least, is the opinion which has resulted from an analysis of his observations. I am far, however, from asserting, he remarks, that chronic pleurisy is not a dangerous disease. I say, only, that a far greater number of children die from acute pleurisy than chronic. According to Dr. Meigs, acute pleurisy is rarely a fatal disease in healthy subjects. He has employed with success the following prescription after the disappearance of the acute symptoms, and where effusion had taken place:—

℞. Potass. iodid. grs. xvi; syr. sarsp. comp., aquæ, āā ℥j. Mix. Dose—a teaspoonful three times a day.

Squill and digitalis may be combined in the following formula:—

℞. Acet. scillæ ℥ij; tr. digitalis gtt. xxx; aq. fluvial. ℥iv. Mix. A teaspoonful three or four times a day to children ten years old.

The author is of opinion that, in chronic pleurisy, Burgundy pitch-plasters are preferable to blisters. When tonics are required in chronic cases, or after the acute symptoms have subsided in feeble and delicate children, the most suitable are quinia, in the dose of a grain morning and evening, small quantities of very fine port-wine, and the preparations of iron.

We have dwelt longer on this disease than might appear appropriate; but, although frequent in childhood, it is very often overlooked, and should be carefully studied by every physician. We have again and again seen it exist unsuspected even by practitioners of experience, simple as its detection often is. We remember an instance—having been called to make the autopsy—of a boy affected with chronic pleurisy, the effusion having been so great as to push the heart very considerably to the right side; giving rise to great œdema of the lower extremities. A simple inspection of the body was of itself sufficient to determine almost certainly the nature of the affection, the left side of the chest being greatly distended so as to efface the intercostal spaces, with complete dulness on percussion. On thrusting a knife through one of these, a jet of pus revealed at once its true character. This child was supposed to die of disease of the heart.

Dr. Meigs states that, with the exception of alum, carbonate of potass is the most useful remedy with which he is acquainted in hooping-cough. He gives it in the dose of a grain three or four times in the twenty-four hours to children one and two years old, for several weeks at a time, without observing any injurious effects from it. He says that he has found alum to exert a more decided influence in moderating the violence of the disease than any other remedy he has ever made use of. The following is his prescription:—

℞. Aluminis ℈iiss; syr. zingib., syr. acac., aq. font. āā ℥j. M.

"At the age of two or three months, I have usually given from half a grain to a grain for three times a day, taking care to suspend it for a day or two when it caused immoderate vomiting or purging, and then resuming it in diminished doses. This, or in some instances small doses of paregoric and syrup of ipecacuanha constitute almost the only remedies I have made use of in the cases of infants."

Dr. Condie also states that during the second stage, he has invariably prescribed the alum with the most decided benefit.

We pass over the Diseases of the Mouth, which Dr. Meigs has classed under the following heads, viz: simple, or erythematous stomatitis; follicular stomatitis, or aphthæ; ulcerative, or ulcero-membranous stomatitis; gangrene of the mouth; thrush, or stomatitis with curd-like exudations. The following remarks upon the treatment of thrush, we believe to be founded in truth:—

"*Purgative remedies* are much used in this country in all cases of intestinal disorder. I believe them to be unnecessary, and generally injurious, in thrush, except at the onset, and occasionally through the course of the disease, when we may suppose the bowels to contain accumulations of partially digested aliment, or highly irritating secretions. Under these circumstances, and only then, from half a teaspoonful to a teaspoonful of castor-oil, or a teaspoonful of spiced syrup of rhubarb, containing half a drop of laudanum, may be prescribed, and repeated in case the same condition of things should recur. Once the diarrhœa with green watery stools established, I believe all cathartics to be, as a rule, injurious."

The following is the wash recommended by M. Bouchut in stomatitis:—

℞. Mel rosæ ℥j; aluminis ℥ss; aq. destillat. ℥ss. M.

The best internal remedy in ulcerative stomatitis is chlorate of potash. Dr. Meigs says that, during the last four years, he has seldom found it necessary to employ any other remedy, excepting some mild cathartic dose, where the bowels have been constipated, and a wash of borax or alum in honey of roses, or borax in simple honey. The dose is from two to three grains every four hours for a child three years of age; two, four, or five grains for one of nine or ten years. I have usually prescribed it in the dose of two grains four

times a day in a mixture of syrup of ginger and water for children three or four years old.

The following are also recommended:—

℞. Sulph. cupri gr. x; pulv. cinch. opt. ʒij; pulv. g. arab. ʒj; mel. commun. ʒij (Dewees); aq. font. ℥iij. M. The ulcerations to be touched with the solution twice a day, with the point of a camel-hair pencil. Or, sulph. cupri ʒij; pulv. cinchona ℥ss; aq. ℥iv. M. (B. Coates.)

℞. Mucil. g. acaciæ ʒj; syr. cort. aurant. ℥ss; calc. chlorinat ℈j. M. ft. lotio (Bonneau), after the ulcerations have assumed a healthy appearance.

The *Diseases of the Throat* are described under the heads of Simple or Erythematous Pharyngitis; Pseudo-membranous Pharyngitis. These are well worthy of attentive perusal. Dr. Meigs observes that his father has been in the habit of employing with much benefit, in the severe angina of children, whether idiopathic or secondary, a wash made according to the following formula:—

℞. Cupri sulphat., quiniæ sulphat., āā gr. vi; aq. destillat. ʒj. M.

This is to be applied in the same way as the warm caustic solution, and I have frequently seen it produce most excellent effects.

Diseases of the Stomach and Intestines.—Dr. Meigs divides them into two classes, viz., those which depend on simple functional derangement, independent of any anatomical alteration cognizable by our senses; and the other, those which depend on evident inflammation or its consequences. The first of the diseases noticed is indigestion; this is treated very fully. The following is the prescription recommended by Dr. Meigs, when there is reason to suspect a disposition to tubercular deposit. In this condition, he has found the cod-liver oil the best remedy he has ever tried:—

℞. Ol. jec. aselli ℥ss; p. g. acaciæ ℥ss; ol. cinnam. gtt. vi; sacch. alb. ʒj; aq. cinnam. ʒiij. M. ft. mixture. Dose—a dessertspoonful three times a day after eating.

The next disease treated of is simple diarrhœa. The therapeutical management of this disease, he observes, should be as simple as possible. The fewer drugs we can succeed with in the gastro-intestinal complaints of infants and children, the better it seems to me. Dr. West recommends very highly, in cases of simple diarrhœa, in which the evacuations, though watery, are fecal, and containing little mucus and no blood, the use of small doses of sulphate of magnesia and tincture of rhubarb. His formula at one year of age is as follows:—

℞. Mag. sulphat. ʒj; rhei ʒij; syr. zing. ʒj; aq. cam. ʒix. M. Dose—a teaspoonful.

Diseases of the Stomach and Intestines attended with appreciable anatomical lesions—Gastritis, Entero-Colitis.—During the five years, from 1844 to 1848 inclusive, there were 4204 deaths from diseases of the digestive organs in this city; including among these, diarrhœa, dysentery, cholera infantum, inflammation of the stomach and bowels, marasmus, aphthæ, worms, colic, and various other affections of the stomach and bowels. Rilliet and Barthez say, "that, taking into consideration all the cases they observed, including tubercular cases, they find that of every ten children that die, one presents a more or less serious lesion of the large intestine." The most frequent cause of entero-colitis in infants, according to Dr. Meigs, is improper alimentation, the substitution of a feculent for a healthy milk diet.

"As feculent substances constitute a large portion of the diet of children throughout the civilized world, it is not surprising that the mortality should be so frightful. Children fed wholly on artificial diet from birth rarely escape,

according to my experience, attacks of the disease, which in many prove fatal. I have, on several occasions, seen children recover rapidly from the disease after suffering more or less for weeks, by the suspension of a diet consisting wholly or in too large proportion of farinaceous materials, and the substitution of one composed of milk and cream, prepared with gelatine, and containing a very small quantity of arrowroot, rice, or wheat flour."

The anatomical characters of entero-colitis are carefully given. When the diarrhœa in the disease persists, and it becomes necessary to resort to astringents, Dr. Meigs recommends the following: "℞. Ocul. cancror. pulv. ʒi; acaciæ pulv. ʒii; sacch. alb. ℈j; aq. fontis, aq. cinnam. āā ʒiss. A teaspoonful four, five, or six times a day."

M. Bouchut recommends the following prescription of Hufeland's: "℞. Ocul. cancror. pulv. grs. x; aq. fœnic. syr. rhei, āā ʒss. Mix. A teaspoonful every hour." He has also used with much advantage, either alone, or with the chalk or crab's eyes mixture, an aromatic syrup of galls, in the dose of from fifteen to forty drops three or four times a day, or, when the discharges are very frequent, every two or three hours. It is prepared according to the following formula: "℞. Gall. opt. pulv. ʒss; cinnam. pulv. ʒij; zingib. pulv. ʒss; spts. vin. gall. opt. Oss. Mix. Let the ingredients stand in a warm place for two hours, and then burn off the brandy, holding some lumps of sugar over the flames, and strain through blotting-paper."

MM. Trousseau and Pideaux recommend the internal use of nitrate of silver in chronic diarrhœa of children, occurring during dentition after bismuth, powdered crabs' eyes, and diet have failed to effect a cure. The formula is as follows: "℞. Argent. nitrat. gr. ¼th; aq. destillat. ʒij; syr. sarsap. ʒiiss. Mix. To be given in eight or ten doses." At the same time they employ an enema composed of a grain of the nitrate to three ounces of distilled water. It is highly recommended in these cases by Hirsch, of Königsberg. His formula is as follows: "℞. Argent. nitrat. crystall. gr. ¼; aq. destillat. ʒii; acaciæ pulv. ℈ii; sacch. alb. ʒii. Mix. A teaspoonful of this mixture to be given every two hours, and an enema consisting of a quarter of a grain of the salt, with mucilage and a little opium to be administered."

Dr. Meigs states that he has employed this remedy in the proportion of from half a grain to a grain in a glassful of water, by injection, morning and evening for several days, with very decided benefit in those cases of diarrhœa following summer complaint in which the stools were frequent, mucous, sometimes streaked with blood, and accompanied by tenesmus. The syrup of nitrate of iron may also be given in doses of two or three drops three times a day, in sweetened water, at the age of one or two years. This is an excellent remedy in the chronic diarrhœa of children. Hope's camphor mixture may also be given in the dose of from five to fifteen drops, three or four times a day in water.

Cholera Infantum.—The pathology of this disease, we believe, the author has concisely and correctly given in the following words:—

"For my own part, I am disposed to believe that cholera infantum is a disease of the mucous membrane of the alimentary canal, which, beginning with morbid development of the mucous follicular crypts independent of *evident* inflammation, occasions full supersecretions from these organs, and after a time inflammation and its result, ulceration, softening and thickening. That it is not an inflammation from the beginning is, it seems, clearly true, from the nature of the anatomical lesions, and from the fact that the early stage is often unaccompanied by any febrile movement whatever, and is not unfrequently attended with disposition to collapse like that which occurs in the cholera

of the adult, but that it becomes an inflammation after the development of the follicular apparatus has lasted a short time, is also, I think, apparent, from the nature of the anatomical lesions, and from the circumstance that there is always more or less violent febrile reaction after the first day."

The following formula he recommends for reducing the frequency of the discharges in chronic cases, or in those subacute ones in which diarrhœa is the most important symptom:—

℞. Tinct. krameiræ ʒii; tr. opii gtt. xii; syr. zingiberis ʒi; aq. fluvial. ʒxiv. Mix. A tablespoonful from five to six times a day."

Another very useful one is the following:—

"℞. Tinct. krameriæ vel colch. ʒii; tinct. opii gtt. xii; mist. cret. ʒiss; aq. fluvial. ʒx. Mix. A teaspoonful from five to six or nine times a day."

In the treatment of dysentery, the author states that there are two remedies which have been of more positive efficacy in his own practice than any others with the exception of opium. These are the nitrate of silver and the solution of the nitrate of iron. The former he has used both internally and by injection, the latter only by injection.

"For children two years old, I have usually employed from ¼ to ½ a grain, and for those of 5 or 6 years or upwards, a grain, dissolved in two ounces of a vehicle consisting of an ounce each of syrup of gum-Arabic and distilled water. The dose is a teaspoonful every 2 or 3 hours. It is well, as a general rule, to add from 4 to 10 drops of laudanum, according to the age of the subject, to the mixture. For each injection, I have commonly employed for each enema ½ a grain for young children, and two grains for older ones, dissolved in four ounces of distilled water. The injections are to be repeated twice or three times each day. After the nitrate of silver has come away, it is a good rule to throw into the bowel a laudanum and starch injection. I have made use of the solution of nitrate of iron only as an injection in acute dysentery. I have employed it in 8 cases, and am quite sure that it was of essential service in 6, while in 2 it appeared to irritate, probably because the quantity given was too large. My mode of applying it is to mix from 10 to 12 drops in 4 ounces of tepid water for each injection. The injections were given twice or three times a day, and they were followed, as soon as they had relieved, by a laudanum injection."

Diseases of the Nervous System. Tubercular Meningitis.—Dr. Meigs is of opinion that this disease is rare among the more wealthy classes, having met with but 17 cases in private practice in the course of 11 years.

We think he is in error in adopting the opinion of Barrier, that the cause of the disposition on the part of the tubercular diathesis of children to localize itself in the brain is due to the physiological conditions of the nervous system in early life, which are those of great functional energy and muscular activity. It appears to us that the disease is the result of a vicious nutrition, induced by various depressing circumstances, and which is therefore the reason, probably, why it is less frequent in the easier classes. This is shown by the fact that the disease is not confined to the brain, but exists simultaneously in the lungs, the bronchial glands, the spleen, the mesenteric glands, the liver, and other organs of the body. The physiological conditions of the pia mater, in which the granulations of the brain are for the most part found, explain the predominance of the cerebral symptoms.

Miliary tubercles, observes Dr. Meigs, which are not unfrequently met with, vary much in size, number, and arrangement. They vary in size from that of a hempseed to that of a pigeon's egg; frequently there are one, two, or three, almost as large as a pea or a small nut. We have never met in tubercular meningitis with tubercles of that size. In all those cases which have come under notice, which, though not numerous, have been observed with much

care, we have found miliary granulations, and in equal proportion upon the upper surface and the base of the brain; more rarely in the fissure of Sylvius, and upon the cerebellum in one-fourth of the cases. They existed in the lungs in every instance in which they were observed in the pia mater, less frequently in the bronchial glands, liver, and spleen, and still less often in the mesenteric glands, small or large intestine, pericardium, and kidneys. Were the spinal column more frequently examined in autopsies, they would no doubt be often observed. Dr. Meigs observes that convulsions rarely occur in the first stage. MM. Rilliet and Barthez conclude that meningitis, without complication of tuberculous disease of the cerebral substance, never begins with convulsions; and that, on the other hand, wherever they appear at the invasion, or recur frequently or with violence, they almost always coincide with tubercles of the *substance* of the brain. The latter remark, however, is not invariably true. Not long ago, we attended a case of tubercular meningitis, in which the previous symptoms amounted to nothing more than a slight catarrh, lasting but a few days, when, almost immediately afterward, the child was severely attacked with a violent convulsion, lasting several hours, for which it was bled to the extent of ℥iij. The next morning, the patient was running about, as playful as usual. In a few days, however, it was observed that the child had fever in the evening, and was languid, which, had it not been for the attack of convulsions, might have induced the opinion that the case was one of ordinary remittent fever. The cerebral symptoms soon became more marked, and the opinion expressed, notwithstanding the anomalous character of the case, that the disease was tubercular meningitis. There was no return of convulsions during the illness, nor were there any convulsive movements, but the child lay for the most part in a comatose condition. Blisters to the extremities, behind the ears, leeches to the temples, &c., and active purgative treatment, were resorted to, without the slightest modification of the symptoms or influence upon the course of the disease. At the autopsy, which was made by my friend, Dr. Leidy, tubercular deposits were observed in the pia mater, in the lungs, and in other organs of the body, but there were no tubercles in the *substance* of the brain. This child presented no marked signs of emaciation, but, on the contrary, was apparently in good health. Neither of the parents was tuberculous.

The portion of the chapter devoted to the treatment of this disease is, we think, unnecessarily long, when we take into consideration the positively fatal character of the disease. Nevertheless, whenever there is a doubt as to its true nature, it is undoubtedly best to treat it as if it were one of simple meningitis. We were ourselves once deceived in the diagnosis, the case terminating in recovery, contrary to our prognosis. "This disease is much more frequent than simple meningitis. Bouchut states that he has met with two cases of simple meningitis to six of tubercular disease."

The chapter on cerebral hemorrhage is interesting, and deserves attention. This appears to be a rare affection, M. Barrier having seen but one in 576 cases of diseases of all kinds. We have met with it but once, and that in a child of three weeks.

We pass over the remarks on diseases of the nervous system, unattended with appreciable anatomical lesions, including general convulsions or eclampsia, laryngismus stridulus, contractions with rigidity, chorea. The latter disease has been successfully treated by the decoction of cimicifuga with iron. Of the former, Dr. M. gives to children of 8 or 9 years old, from ʒiv to Oss a day, made in the proportion of ʒss of the root to a pint of boiled water.

Eruptive Fevers.—Dr. M. believes scarlet fever to be propagated by two

causes, contagion and epidemic influence. He divides the cases simply into mild and grave. As a local application to the fauces, he recommends, aqua nitrat. 10 or 20 grs. to the ounce, to be applied twice or three times a day; powdered alum, and a solution of sulphate of quinia and copper, very much used and greatly depended on by the elder Dr. Meigs. For the treatment of the dropsy, the following prescription is recommended :—

℞. Potass. acetat. ℈ii; tinct. digital. gtt. xlviij; syr. scill. ʒ vel ʒij; syr. zingib. ʒii; aq. fluvial. ℥ij. M. Give a teaspoonful every three hours, to a child three or four years old. In giving digitalis, its effects upon the pulse and nervous system must, of course, be closely watched.

Very little space is devoted to a consideration of the anatomical lesions, which, indeed, require more careful study.

The following application has been used advantageously in variola, to prevent disfiguration :—

℞. Mercurial ointment, 24 parts; yellow wax, 10 parts; black pitch, 6 parts. The application ought to be confined to the face. As a general rule, 4 or 5 days are sufficient.

Diseases of the Skin.—Of these, erysipelas is the only one we shall notice. It appears to be a rare disease in private practice. Dr. M. has met with but three cases in children under six months. It is always dangerous in young children. The external remedies recommended are fomentations of the extract of poppies, diffused in warm water, and poultices of the same fluid and crumbs of bread. When the colour of the eruption is disposed to deepen from red to purple, we may use the lotion of camphorated fluid recommended by Underwood, the camphorated tincture of soap, applied 3 or 4 times a day, by means of a soft sponge, and Kentish's ointment, a remedy found of great service by Dr. Meigs, Sr., in the treatment of the erysipelas of children. It is rubbed upon the inflamed part with the fingers, the anointing being repeated often enough to keep the part always very thinly covered.

The internal treatment should consist in attention to the state of the bowels, which are to be kept soluble by the mildest laxatives, without being purged, and in a resort to tonic and stimulating remedies upon the very first approach of symptoms indicating exhaustion. The best remedies of this class are, proper diet, wine whey, small quantities of brandy and bark, in connection with minute doses of carbonate of ammonia.

We have now gone over those parts of the work which have appeared to us to be of most interest to our readers, and cannot but express the satisfaction which its perusal has afforded us. No pains appear to have been spared to obtain the most recent information in regard to the important subjects of which it treats, and we feel confident that it will meet the approbation of the profession. Having said thus much, we may be permitted to observe how greatly the author is indebted to the labours of the French physicians, and how little to those in our own country. How long are we to endure this state of mental dependence? And, reaping, as we do, the advantages resulting from their patient observations, how grateful should every American who has been in Paris feel for the numerous opportunities afforded him of perfecting himself in his noble pursuits. In regard to the style of Dr. Meigs, we may also remark that it is wanting in conciseness. An author should always be careful to spare his readers any unnecessary labour in getting at the truth, and this is especially the case when those readers happen to be persons engaged in the arduous duties of a profession which requires almost their whole time in the performance of its practical duties. Precision, force, and perspicuity are, it appears to us, required in the attainment of a good style; and Buffon, we think, has

said, that no work, however excellent its merits in other respects, will be very long remembered, unless its style recommend it to the regards of posterity. The finest models of Rome and Greece, the Bible, the best works of our Anglo-Saxon forefathers, and of Italy, possess certain characteristics common to them all, and which have enabled them to live, and which will cause them to endure so long as the languages in which they are written shall remain known. We would suggest to the author that several subjects not treated of might with advantage be introduced into the work; as, for instance, a chapter on the mortality of infants under five years of age. E. H.

ART. XVI.—*Syphilitic Diseases; their Pathology, Diagnosis, and Treatment; including Experimental Researches on Inoculation as a Differential Agent in testing the Character of these Affections.* By JOHN C. EGAN, M. D., M. R. I. A., &c. &c. London: John Churchill, 1853. 8vo. pp. 346.

THIS is the most recent systematic treatise on syphilitic diseases with which we are acquainted. It should rather be entitled a Treatise on Venereal Diseases, inasmuch as it embraces both gonorrhœa and syphilis. It is another offspring from the Dublin School, which had previously produced the essays of Colles, Carmichael, and Wallace, besides other minor contributions upon the same subject.

Dr. Egan has been for several years connected with the "Westmoreland Lock Hospital," in Dublin, where abundant material has been furnished him for the study of venereal diseases, and which has chiefly supplied him with the data for his treatise. We may also add that the results of his investigations were submitted to the Surgical Society of Ireland, and found great favour with that learned body.

After some very general remarks on the *history* of these affections, in which he merely coincides with most modern authors in the opinion that these diseases "existed in the remote ages of the world, although in many instances loosely and imperfectly described," Dr. Egan devotes quite a full chapter to "Researches on Inoculation."

Dr. Egan's experiments in inoculating corroborate, in the main, those of M. Ricord. There are some particulars, however, in which their observations do not agree. Dr. Egan was never able to produce the characteristic pustule of primary syphilis by inserting the muco-purulent matter of gonorrhœa beneath the skin; "but many cases presented, where the discharge was accompanied by *abrasions*, or *superficial ulcerations of the vaginal mucous membrane*, and which were followed by a mild form of secondaries (generally a papular eruption over the body), although incapable of inoculation." And again, by inoculations practised with the matter taken from buboes resulting from gonorrhœa, he says: "I was unable, after repeated trials, to elicit any effect beyond slight irritation of the cuticular surface, results so far coincident with the experiments of M. Ricord; but I have been convinced, from repeated observation, that even here a mild form of constitutional symptoms, as a papular eruption, an erythematous redness of the fauces, has often resulted on this affection."

Before the existence of chancres concealed within the urethra was so happily determined by M. Ricord, the occurrence of secondary symptoms of syphilis, after what was supposed to be simple gonorrhœa, was very commonly admitted.

And, indeed, even now, there are many who think, with Dr. Egan, that cutaneous eruptions, iritis, and rheumatism do sometimes succeed to pure and simple gonorrhœa, just as they follow upon chancre, as legitimate effects. But when we consider that gonorrhœal matter is not inoculable, as is on all sides admitted; that the occurrence of these subsequent phenomena is confessedly rare, and has by many most careful observers never been witnessed; that errors in diagnosis are easily made; that mere coincidences may be, without great care and repeated observations, raised to the importance of consequences—we should certainly be unwilling to entertain the idea that gonorrhœa has its constitutional sequelæ, and thereby revert to the chaotic state in which the profession groped before modern investigations illumined the diagnosis of the two primary venereal affections. Dr. Egan furnishes his readers with no accurately recorded cases upon which his belief is based. As to the occurrence of "papular eruptions" after gonorrhœa, we know perfectly well, as M. Ricord remarks, that they are often produced by the resinous drugs which are commonly administered to gonorrhœal patients, and which, we are allowed to surmise, may have been exhibited to the persons who fell under Dr. Egan's notice, especially as he, in a subsequent chapter, most highly recommends their employment.

The author performed some experiments to test the inoculability of the matter of *phagedænic* syphilitic ulcers, which confirmed the statements of M. Ricord with reference to the infrequency of any positive result. "But," he remarks, "although specific results do not always succeed to inoculation of this destructive form of ulceration, yet sufficient evidence can be adduced to prove that such consequences do occasionally ensue; and that ulcers, identical in character and disposition, have made their appearance on sound parts of the body, from the introduction of pus from these peculiar sores." And, to confirm his opinion, he cites cases and statements by Mr. Hamilton, of Dublin, M. Ricord, and Mr. Acton, deducing from the whole the inferences that the virus of this particular variety of the syphilitic ulcer is peculiar, and that it affords one reason for believing in the existence of a plurality of syphilitic poisons; that the matter of a simple chancre produces a sore similar to that from which it was obtained, and gives rise to a tolerably uniform succession of secondary symptoms; while the matter from a phagedænic ulcer originates another like the latter, with a more or less characteristic group of constitutional phenomena. This point is discussed more at length in the succeeding chapter. In this, if we are not greatly mistaken, Dr. Egan has not correctly represented the writers whom he quotes. We are under the impression that these gentlemen contend that there is but one syphilitic virus, and that, when the secretions or the detritus from a phagedænic chancre, existing upon an individual, are inoculated in the *same* person, a similar kind of ulcer is generated, not because the *virus* is peculiar, but simply because his *condition* is peculiar. Mr. Acton expressly cites a case in which three students were infected from the same *grisette* during one evening. One had a simple excoriation, another an indurated chancre, and the third a phagedænic sore. There is no lack of similar instances.

Dr. Egan is, very properly, we think, an unbeliever in the doctrine promulgated recently by M. Auzias Turenne, that successive inoculations modify or prevent renewed infection.

The secondary and tertiary phenomena of syphilis, Dr. Egan has never found to be inoculable; yet he believes that an infant suffering from *constitutional syphilis* may communicate the disease to its nurse, and *vice versa*. But as this important subject is examined separately in a subsequent chapter, we shall make no comments upon it now.

The next subject treated of is Gonorrhœa, to the consideration of which about a hundred pages are devoted. The topic is discussed with much fairness and good sense. We observe nothing new in the author's observations; nor do we think that his description of the complaint, in all its details, is quite as full as many would desire. But the prominent phenomena are carefully exhibited, and the treatment recommended is exceedingly judicious.

The remainder of the book, nearly two hundred pages, treats of *Syphilis*, in its different phases.

Dr. Egan adopts, to a considerable extent, the views of Mr. Carmichael, with regard to the peculiarity of each variety of syphilitic primary sores, and the secondary consequences proper to each. He says:—

"In a former chapter I endeavoured to show that, when uninterfered with by local applications, venereal ulcers assume certain specific characters; that from these appearances may, to a great extent, be prognosticated what class of constitutional affections are most likely to supervene; or, rather, what will be the leading characteristics of the secondary or tertiary symptoms, should they succeed to the primary sore. I likewise stated that experience had led me to believe that syphilitic ulcers are amenable to certain fixed, though not immutable, laws; that the subsequent cutaneous eruption, together with certain abnormal alterations in the natural appearance of the throat and other tissues, result upon peculiar forms of primary sores; and that these general indications (although, as in the case of eruptions, they may partake more or less of a mixed character) are sufficiently preserved in their distinctive traits to enable us to recognize upon what species of original infection they are consequent. My faith in this doctrine has been strengthened by the results of inoculation; and I have previously demonstrated that matter taken from primary sores of a recognized class will produce ulcers of a similar description." Pp. 151, 152.

The assertion made in the last clause of the above quotation is scarcely warranted. So far as we have been able to detect, by repeated careful perusal of the chapter on inoculation, Dr. Egan has not attempted to prove that any one of the varieties of chancre begets its like, excepting the *phagedænic;* and, as we have before remarked, it is much more probable that the identity in this case is due to the fact that the inoculation was practised upon the same person from whom the matter was taken, rather than to the cause assumed by Dr. Egan. It is true, that he does not inform us that his experiments with the *syphilitic* virus were thus conducted; but, inasmuch as this is the common plan, and it is not otherwise stated in his book, and as we are told that his inoculations with *gonorrhœal* matter were performed upon the patient from whom it was obtained, we think it fair to infer that such was the case with the chancrous virus. In addition to the case which we previously cited from Mr. Acton, to show that one and the same chancre may produce in different persons different varieties of primary sore, we quote the following from the same author:—

"M. Vidal de Cassis took the secretion from the sore of a patient (which sore was unindurated) and inoculated a healthy pupil; the inoculated point in the pupil took on an indurated character, and the young man suffered most severely." P. 375.

If, then, the character of a primary sore is not determined by that of the ulcer from which the infection was contracted, it does not seem logical to infer that the symptoms of constitutional disease will be decided by it. It seems to us more probable that both the primary and the secondary phenomena are dependent upon the local and constitutional peculiarities of each individual.

The classification which Dr. Egan adopts is the following: 1. *The superficial primary ulcer*, its most common sequelæ being a papular eruption, in-

creased vascularity of the throat, pains in the joints, simulating rheumatism, and iritis. 2. The primary ulcer, distinguished by *elevated margins, centre slightly excavated, and even without granulations*, followed by increased vascularity with a dry and granular appearance of the throat, a pustular eruption, painful distension of the joints, and nodes. 3. *The phagedænic primary ulcer*, inducing sloughing ulceration at the back of the pharynx, rupial eruption, severe pains in the joints, and nodes. 4. *The indurated primary chancre*, succeeded by excavated ulcer of the tonsils; enlargement of the cervical glands, the scaly eruption, pains in the head and shafts of the bones, and nodes.

Dr. Egan does not contend that the above will be found to be the invariable grouping of the symptoms of syphilis, but that it will be so in general. Each class is well described, and for each a very judicious mode of treatment is recommended.

Besides these, he enumerates the tubercular eruption, and caries and exfoliations of the nasal bones, under the head of "unclassified constitutional affections;" while muddiness of the skin, alopæcia, affections of the nails, affections of the tongue, ulcerations, syphilitic testicle, and bubo are considered as "affections common to all classes."

An interesting chapter is devoted to the description of syphilis as manifested in pregnant women and infants. We quote the result of Dr. Egan's observations:—

"1. The fœtus in utero may be contaminated by decided syphilitic symptoms in the father, while the mother may present no traces of the disease. 2. The child may be affected by a *latent venereal taint* in the father, while the mother may exhibit no evidence of the malady. 3. The child (with the exception of purulent or gonorrhœal ophthalmia) is rarely affected during its entrance into the world. 4. Abortion may be prevented, and a healthy child insured, by a judicious mercurial treatment during pregnancy. 5. A syphilitic taint in the unimpregnated female may be removed by the employment of mercury."

"Syphilis as contracted from nursed children" is the topic considered in the seventeenth chapter. Dr. Egan is, as we have already intimated, a believer in, and a warm advocate of, the doctrine that an infant affected with secondary syphilis only may, and frequently does, infect its previously healthy nurse. To prove this, he cites opinions from several distinguished men, and quotes cases. But we must say that, to us, his argument is exceedingly weak and inconclusive.

In the first place, this mode of infection is most improbable. Direct experiments with regard to the inoculability of all forms of constitutional syphilitic disease have, in the hands of Dr. Egan and all other observers, been unsuccessful. And the investigations of John Hunter and Ricord have equally demonstrated that the blood and the secretions of persons affected with constitutional syphilis are not inoculable. Dr. Egan himself adopts and urges the truth of this discovery, indorsing the assertion of Mr. Travers, "that the natural secretions, by a most happy economy, however they may deviate from a healthy standard, are not in any case a vehicle of this poison." p. 308. Moreover, cases are recorded by Mr. Hunter and M. Ricord (*Traité de la Maladie Vénérienne, par J. Hunter, avec des Notes et des Additions par Ricord*, Paris, 1852, pp. 563–4), in which the secretions of chancres have been actually *swallowed*, and yet no infection has resulted. If, then, neither the secretions from constitutional syphilitic ulcers, nor the blood, nor the natural secretions of persons suffering under lues venerea can occasion any specific effect, so far as experiment has determined, is it probable that a specific ulcer or constitutional symptoms are produced by the contact, in suck-

ing or otherwise, of a poxy infant? And a very curious fact, inexplicable excepting upon the admission of an error of observation, is that, according to the statements of all, Dr. Egan amongst the rest, *an infant never communicates the disease to its own mother*, but only to its hired nurse. Is it probable that, if a mother should be inoculated with syphilitic virus taken from a *chancre* existing upon her own child, proper conditions being attended to, infection would ensue less certainly than if a hired nurse were tested with the same matter?

Again. The cases quoted by Dr. Egan are by no means satisfactory. The first, indeed, is, it appears to us, an unfortunate one for him.

"The child, as stated by the medical attendant, had sores on its mouth, around the anus, and on the scrotum. The nurse contracted the disease; was covered with a desquamation of branny scales all over the body; infected her husband, the disease in whom appeared in tuberculated ulcers on the dorsum of the penis, &c." P. 294.

Now, is it to be believed that an infant, a nursling, not having primary syphilis, and the symptoms of whose constitutional infection were not inoculable, could generate within the vagina of its nurse a sore by means of which the husband's penis should become affected with "tuberculated ulcers?" Or, even if the ulcers on the infant's mouth were *primary* (as may have been the case, because the *mother* had "an intractable sore on her breast," which very probably was a chancre and infected the infant's mouth, from which, in turn, the nurse *may* have become contaminated), how came the virus in the *nurse's vagina?* King George marvelled how the apple got into the dumpling; but we may be more astonished at this phenomenon. In any event, the case is not a fair one, because the infant may have had, and seems to have been supposed to have, primary sores upon its mouth contracted from the ulcer upon its mother's breast, which primary sores may have infected the nurse, the virus having come in contact with the abraded surface of the nipple, or having been accidentally inserted within her external genital organs, thus explaining the occurrence of the "tuberculated ulcers" on the penis of the nurse's husband; or some such virus must have found its way into the vagina of the woman. Either supposition, as we have said, removes the case from the category now under consideration.

The second case is thus advanced:—

"The subject of it, a Mrs. A——, in consequence of her own child being unable to suck the breasts, a strange infant was applied, and continued twice a day for four or five days. At this period the left nipple was fissured, and a number of spots subsequently appeared around it. Six weeks after, she was affected with a syphilitic eruption, and excavated ulcers in the tonsils supervened. The nurse and child finally recovered. The wife, adds Dr. Gavin, being virtuous, could be inoculated in no other way than through the suckling of the diseased babe."

Perhaps here lies the difficulty; it is *assumed* as indubitable that the woman is "*virtuous*," and the husband pure, and, therefore, the infant is the cause of the disease. Evidence such as this must be "ruled out of court." And more than this, so far as the report of Dr. Egan is to serve as the basis of an argument, it is not said that anything whatever was the matter with the child.

Dr. Egan's own cases are four in number. In not one of them was an examination of the genital organs of the nurse made; and as, in the instances already cited, the only reason for doubting the existence of primary syphilis in the woman was that, in one, the person was "a married woman, and mother of three children; her husband a man of irreproachable character;" another was "of strictly temperate habits, married, and mother of four chil-

dren;" a third was "aged sixty, of temperate habits, a widow, and mother of nine children; her husband dead seven years;" the fourth was "married, and mother of five healthy children; of strictly temperate habits; her husband a man of excellent character." In a matter of so much interest to science, and of such vast importance in a social and moral point of view, we do not conceive that a physician should be satisfied with such loose evidence of character; he should, before hazarding an opinion, insist upon *a careful scrutiny of the woman's person*, in order to see if she may not have a primary syphilitic ulcer, or the vestiges of it. Nothing less than this can be satisfactory.

But, to continue our examination of Dr. Egan's cases. In the first, the nurse assured the doctor that she took an infant to nurse, seven weeks old, and, "to all appearance, in the enjoyment of perfect health. In a week afterwards, an eruption made its appearance, first on the nates, and subsequently on the inside of the thighs, which continued alternately declining and reappearing, and was the only symptom of disease present, until within the last two months, when she observed a soreness of the mouth, and a disposition in the mucous membrane to become detached from the lips." The doctor himself says:—

"On examination, an ill-defined scaly eruption is visible on the inner part of the thigh and arms of the child; a few spots are interspersed over its body; there are no condylomatous excrescences, or any other affection, in the vicinity of the anus or vagina, and the mouth is now perfectly healed."

Now, we submit that there is no proof whatever, either in the statement of the nurse or in the report of Dr. Egan, that this child had syphilis at all; and it must be borne in mind that we have no reason to suppose that either of the parents had syphilis, and that when the nurse took the child the latter was, to all appearance, perfectly healthy. But, in the course of the narration, it is stated that the nurse presented, with other phenomena, tuberculated condylomata at the orifice of the vagina. It is certainly to be regretted that, while Dr. Egan was examining the genital organs, he did not make a thorough scrutiny.

"Moreover, an ulcer, about the size of an ordinary plum-stone, of an irregular and excavated form, with uneven and slightly everted edges, situated immediately to the right of the nipple, is seated on the left breast of the nurse; which, she states, first presented itself a few days after the mouth of the child became affected, and commenced in the form of a fissure, which has been gradually increasing in size to the present time."

This may have been the source of the assumed infection of the child. The fact that Dr. Egan was unable to inoculate from it does not positively determine its non-specific character, for he admits that he has not always succeeded in inoculating from undoubted chancres; nor do we think that in a case of this kind, where probabilities are so opposed to the story, the nurse's account of the order of sequence of the phenomena is of much weight. As the case now stands, therefore, there is reason to *suspect* that the nurse herself may have infected the child, if the latter is to be supposed to have been affected with syphilis.

In the second case, a married woman was employed as wet-nurse to an infant six weeks old, and apparently in perfect health. About a month afterwards, a "rash" appeared on the child's body, which a physician "*suspected*" to be syphilitic. The rash gradually disappeared under "the usual remedies;" but after some time the nurse observed "blisters on the tongue and palate of the child, with a constant flow of saliva from the mouth; the lips shortly afterwards assumed a fissured appearance." These symptoms do not by any means indicate a syphilitic taint. The existence of a "rash" upon nursing children is as common as the infants themselves; and the appearances described

in the mouth and lips are much more likely to have been produced by "the usual remedies" than by constitutional syphilis. But, Dr. Egan goes on to say: "An ulcer is perceptible on each breast of the nurse; that on the right is about the size of a split pea, and is situated immediately above the nipple; the left is somewhat smaller, and engages the nipple itself, at its upper part; both are slightly excavated; they were formerly attended with a discharge, but are now perfectly free from the slightest degree of moisture." In this instance, also, an attempt to inoculate failed.

The third case is worth nothing. A widow, sixty years old, undertook as dry-nurse the care of an infant, "which at the time was labouring under disease, manifested by sores about the nates and mouth. The latter she describes as being of a brownish colour, and attended with a constant flow of saliva." In some unknown way, a scratch appeared upon the neck of the nurse, which was supposed to have been infected from the child's mouth, and which, when seen by Dr. Egan, presented the appearance of "a lacerated wound, of about an inch and a half in length, running parallel with the inferior edge of the clavicle on the right side, surrounded by an erysipelatous blush, which is gradually lost in the adjacent structure. The neck and arms are covered with an eruption, the character of which it is impossible to determine, being now in the stage of desquamation." The nurse had been profusely salivated. There is surely nothing in the report of this case to warrant any one in surmising that either the infant or the nurse had syphilis in any form.

The last instance adduced by Dr. Egan is substantially as follows: An infant, a year and a half old, born of syphilitic parents, was committed to the care of its grandmother, as dry-nurse; shortly after its birth "an eruption" appeared upon its body, which alternately declined and reappeared; at the period of the grandmother's taking charge of the child, "there were sores at the verge of the anus of the infant, the mucous membrane of the lips was inclined to peel off, and the tongue was the seat of small white blisters." The grandmother "states that she was constantly in the habit of kissing the child during the time its mouth was affected, and more than once applied her lips to the sores on the anus." About three months, more or less, after the commencement of her service, the nurse perceived for the first time blisters on her tongue, with a fissured state of the lips, which disappeared in the course of six weeks without having recourse to any mode of treatment. During this period she describes herself as "very dead in spirits," with an unaccountable oppression over her. In a month after the tongue and lips had healed, she was attacked with an inveterate itching of the vulva, which was succeeded by elevated "condylomatous sores." She afterwards had an attack of "inflammation of the right eye," and subsequently iritis, probably, of the left eye. No examination of the genital organs is spoken of, nor was inoculation from the ulcers of the vulva practised—an unfortunate omission, truly, and one which is well calculated to throw doubt and suspicion upon the woman, as being indebted to herself for her own constitutional infection, if it be admitted that she had syphilis.

On the whole, then, what conclusion can be drawn from these six cases, as reported in the book before us, the negative results of direct inoculation of the matter of secondary syphilis being borne in mind? In the first, it is probable that the infant had a primary syphilitic ulcer upon its mouth, and the nurse a primary sore in her vagina, so that the latter had a twofold source for her constitutional contamination. In the second, Dr. Egan gives us no right to fancy that the child was at all diseased, and no other reason to suppose that the nurse had not, or had not had, a chancre, saving the assertion that she was "virtuous." In the third, we must doubt that the infant was diseased, and we must strongly

believe that the nurse herself had had primary syphilis, either in the vagina, or upon the breast, or in both these situations. In the fourth, there is again no evidence whatever that the nursling was diseased; but it is not impossible that the very unusual ulcers upon the woman's breast were chancres. In the fifth, not the slightest ground exists for supposing that either nurse or nursling were in any way affected with syphilis. In the sixth, we cannot say that the child had the disease, but we do affirm that the inveterate itching of the vulva, and the elevated ulcers found there, render it more than probable that the nurse herself had primary syphilis.

We have dwelt thus minutely upon this question, because it is so important in its social and medico-legal aspects, and because we have thought that the arguments usually brought forward to sustain the fact of infection under such circumstances will not bear scrutiny, as we trust we have shown with regard to those advanced by Dr. Egan. It would have been quite possible, seemingly, for him to have established the point at issue, affirmatively or negatively, by subjecting the genital organs of these women to a rigid inspection, as well as testing the specific or non-specific character of the ulcers elsewhere presented. And simply because the sores were situated upon unusual parts of the body, it by no means follows that they were not chancres. Those who have read the works of M. Ricord, must be familiar with the fact that chancre has no fixed position; it has been found between and upon the breasts of women, in and about the mouth, beneath the chin, in the axilla, at the anus—in short, wherever the arrangement and situation of parts afforded the possibility of bestial gratification to men already satiated with enjoyment obtained in the natural use of the sexual organs. Without great watchfulness, and careful examination, a *mistake* is easily made by the surgeon; and, moreover, the propensity to *lie*, common to almost all venereal patients, must be excessively strong in a woman who thinks to cover up her own guilt, or to excuse or account for her own disease, by charging the cause upon the infant committed to her care.

An apposite instance is recorded by M. Ricord, in his *Lettres sur la Syphilis*, p. 103. A nurse had charge of a child of perfectly healthy parents; an eruption appeared upon the infant, and the nurse, fancying or pretending that she had become infected therefrom, insisted upon indemnification. The parents resisted, and the case was submitted to M. Ricord. He found that the child had a common *porrigo larvalis*, and that the nurse bore upon each breast an *indurated chancre*, placed opposite each other; he finally obtained from the woman the acknowledgment that a man, not her husband, "dans la crainte de lui faire un enfant et d'altérer son lait, s'était livré sur elle à des actes que la plume se refuse à tracer."

We need not quote the deductions which Dr. Egan draws from the facts collected in this chapter; but there is one so improbable that we cannot refrain from submitting it to our readers. He says, p. 323:—

> "Infection may be communicated to a *hired dry-nurse* by mere contact, without any breach of surface. This can only occur where she is engaged in caring for, but not suckling the child."

The concluding chapter contains some general observations on the treatment of syphilitic diseases. The comparative merits of the mercurial and non-mercurial plans are fairly set forth, and a sound discriminating judgment is displayed in the author's views respecting them.

In conclusion, if we were to express our opinion concerning the absolute merits of Dr. Egan's treatise, we should say that it furnishes a useful digest of the phenomena and treatment of venereal diseases, on most practical points; but that, in the discussion of questions requiring a careful observation and a rigid interpretation of facts, it is often at fault. F. W. S.

BIBLIOGRAPHICAL NOTICES.

ART. XVII.—*A Practical Treatise on the Diseases of Children.* By D. FRANCIS CONDIE, M. D., Secretary of the College of Physicians; Member of the American Medical Association; Member of the American Philosophical Society, etc. Philadelphia: Blanchard & Lea, 1853.

THIS new edition of Dr. Condie's Treatise came to hand at so late a period, that we cannot do more than cursorily notice it. The work has, however, been so often and so favourably mentioned in this journal, that it is hardly necessary, indeed, to do more than announce its appearance. The fact of its having reached a fourth edition in so short a space of time from its first publication, is sufficient proof of its merit, and of its approval by the profession at large. The present edition is much augmented, and the style of its publication reflects credit upon the publishers, the paper being good, and the type unusually clear and large.

The frequent reference to German authorities constitutes a remarkable feature in the work of Dr. Condie, and adds much to its value. Indeed, the study of the German language is all-important to the physician who would keep pace with the progress of medical science.

Typhoid fever is one of the diseases noticed by Dr. Condie, and which does not appear to be described in the work of Dr. Meigs. It is, however, a disease of not unfrequent occurrence, and we shall, therefore, notice what he says in relation to it.

"The memoirs of Rilliet and Barthez afford sufficient evidence that many of the cases of what was formerly considered as enteritis in children, as well as of that form of fever which has been vaguely denominated worm or gastric fever, are in fact cases of genuine typhoid fever."

"A most interesting paper on the typhoid fever of infants occurs in the *Archive für physiologische Heilkunde.* It is by Dr. Friedleben, and presents the results of his observations during four epidemics of the disease; the first extending from February to April, 1844, and from July to August in the same year. Then in January and February, 1846, and during July and August of the same year. During the months of January and February, 1846, the fever was confined almost exclusively to children, affecting the adult more particularly during April and May. In the course of the three years from 1844 to 1846, both inclusive, Dr. Friedleben had under his charge 1842 children (880 boys and 962 girls), of which 98 cases were of typhoid fever, namely, 46 boys and 52 girls. Among these only one was under one year, 23 ranged from two to five, 32 from five to eight, 22 from eight to eleven, 12 from eleven to fourteen, and 8 were above fourteen. The epidemic, therefore, fell with its greatest force on children between the second and eleventh years, and was more prevalent in winter and summer than in autumn and spring.

"The pathological characters of the disease, as exhibited in those who fell victims to it, are thus described by Dr. Friedleben.

"The glands of Peyer were much swollen, some of them being a line and a half in thickness. The swelling was not, however, always uniform, the centre being frequently more elevated than the margins. Their surface was unequal, owing to the presence of capsules, which gave them the appearance of ulceration. The number of the diseased glands varied from six to twenty. They were of a bluish livid tint, soft, and easily detached. No change seemed to have occurred in the other coats of the intestine, with the exception of the sub-glandular cellular tissue, which presented the appearance of softening. Such were the appearances noticed in cases which proved fatal before the twenty-third day. When the disease was protracted beyond that period, induration of the glands occurred.

"According to Dr. Friedleben, all the glands which became developed before

the twenty-first day were the soft (follicles), those later, the hard (glands of Peyer). His observations establish the views of Rilliet and Barthez, as also those of Barrier, on the progress of inflammation of the glands. Severe ulceration of these may occur in exceedingly young subjects; they were witnessed in the case of a child only two years and a half old. They may take place at a very early period of the disease, even on the eighth day, but cicatrization does not begin before the twenty-first day; its progress is found to be more rapid than in adults.

"The mucous membrane is usually sound, being changed in appearance only in the immediate vicinity of the glands. In one instance, the mucous membrane of the stomach was observed to be inflamed. The submucous cellular tissue was always natural. Changes were invariably discovered in the mesenteric glands; they were usually red and swollen, particularly at the beginning of the disease; infiltration and softening were rare; and, in the opinion of Dr. Friedleben, the former only occurs in very serious cases, where there has been disorganization of the condition of the blood.

"The general conclusions are as follows:—

"1. The glands of Peyer, and, as a consequence, the mesenteric, are the local seat of the typhoid fever of the infant.

"2. During the first three weeks there is only simple inflammation of the follicles.

"3. This may terminate in resolution without ulceration.

"4. When ulceration takes place, the progress of cicatrization is very rapid.

"5. When the morbid action extends beyond the twenty-first day, infiltration of the glands of Peyer may occur.

"6. The infiltration begins in the glands in the proximity of the great intestine.

"7. This leads necessarily to ulceration.

"8. In this form of ulceration, cicatrization takes place very slowly.

"9. After the twenty-first day, the two forms of ulceration may be discovered in conjunction.

"10. In all the cases terminating favourably, and in the generality of those ending in death, the mesenteric glands are only affected by a simple inflammatory softening.

"11. Changes in the spleen occur simultaneously with those above described.

"12. All the complications which happen before the twenty-first day are of a very distinct inflammatory character.

"13. The chemical character of the blood agrees with that state."

The following observations from the chapter on vaccination are of interest:—

"By many physicians of great respectability, it has been supposed that the protective powers of the vaccine infection become gradually impaired, as the individuals who have been subjected to its influence advance in age, until, finally, they become anew susceptible to the contagion of smallpox. Brown, of Edinburgh, Gregory, of London, Mohl, of Copenhagen, Heim, of Wirtemberg, and some few of the physicians of this country, advocate this opinion; all of whom insist upon the necessity of revaccination, as a means of restoring to the system its immunity from variolous infection.

"We have collated with no little care the leading facts which bear, either directly or indirectly, upon this question, especially those recorded during the last ten years; all of which, in our opinion, very fully sustain the position of Jenner, that, in every instance in which the system can be fully infected with the vaccine disease, it affords a protection against the occurrence of smallpox, which is unimpaired with the lapse of time. The question as to the propriety and advantage of revaccination is, nevertheless, a very important one. That among a given number of those who have been apparently successfully vaccinated, there will be found many in whom, from some cause not well ascertained, a greater or less degree of susceptibility to variolous infection is left unextinguished, and which susceptibility augments in time, is a fact that would appear to be well established; and such individuals will be found to be also susceptible to reinfection by the vaccine virus. Now, the question presents itself: Will it be possible, by subjecting such persons to revaccination, to protect them from an attack of smallpox? In order to test this question, revaccination has, for

some years past, been very extensively practised in many parts of Europe, and the results obtained thus far are curious and interesting.

"We have collected together the results of 498,325 revaccinations performed by different individuals in Europe and this country. In about 37 per cent. of these the revaccination is stated to have been successful; while in 81,252 cases in which a second revaccination was performed, in about 11 per cent. the operation is reported as successful.

"We are not, however, to conclude that in every case in which revaccination is successful the individual has been previously well vaccinated. In, perhaps, the majority of instances, we have no other evidence of the primary vaccination, and of its character, than the report of the individuals themselves, and the presence of a more or less perfect cicatrix upon the arm, neither of which is to be received as conclusive. But, after making a reasonable deduction for such cases as may be supposed to have been imperfectly vaccinated in the first instance, there still remains a large number of cases (about 33 per cent.) in which the primary vaccination, though to all appearances regular and complete, fails, from some peculiarity of constitution, to afford a perfect security from subsequent variolous infection, and in which a revaccination is essential, in order to insure to the individuals a full protection.

"If, therefore, the facts upon record are perfectly accurate—and there is no reason for suspecting them to be otherwise—they afford conclusive evidence of the necessity and importance of revaccination in all cases in which persons are liable to be exposed to the infection of smallpox; not, however, from any fear that the protective power of the primary vaccination, when the system has been placed fully under its influence, may be impaired by time, but simply as a test whether the susceptibility of the individuals to variolous disease has been fully extinguished.

"Had we no other proof of the importance of revaccination, that derived from the results of the operation among the soldiers of the Prussian army would be sufficient. The whole army now enjoys an almost entire immunity from the contagion of smallpox, notwithstanding it has been repeatedly subjected to its influence. To the report for 1841, we find attached the following important statement. The powerful influence of revaccination, in the diminution of variolous diseases at the different military hospitals, is most remarkable. During the year 1841, there occurred but 50 cases, of which 10 were genuine variola, 24 modified smallpox or varioloid, and 16 varicella. Three of the patients died; of these, one had not been vaccinated on his admission into the army, but his certificate indicated that he had been a short time previously; the second occurred in a recruit, who had not been revaccinated; and the third in a non-commissioned officer, who had been revaccinated some years before, but without success. Before the order for revaccination was issued, the different barracks used to be a prey to varioloid disease, which has now almost entirely disappeared.

"A few years since, a prize was offered by the Academy of Sciences of France, for the most satisfactory essay in reply to certain queries relating to the preservative power of vaccination, the necessity of renewing the vaccine virus from the cow, and the necessity of revaccination. The various essays sent in by the competitors for the prize were referred to a committee of the Academy, whose report, submitted in February, 1845, concludes with the following general summary deduced from the facts presented by the authors of the essays.

"1. The preservative power of vaccination is absolute for the majority, and temporary for a small number; even in the latter it is absolute until adolescence.

"2. Smallpox rarely attacks those who have been vaccinated in infancy, before the age of ten or twelve; from which age, however, until thirty or thirty-five, the vaccinated are particularly liable to smallpox.

"3. In addition to its protective power, vaccination so modifies the animal economy, that it attenuates the symptoms of smallpox, abridges its duration, and considerably diminishes its danger.

"4. Vaccine matter taken directly from the cow causes local symptoms of greater intensity, while its effects are also more certain than those of old vaccine matter, but after being transmitted for a few weeks through the human subject, the local intensity disappears.

"5. The preservative power of vaccine matter does not seem to be intimately connected with the intensity of the local effects produced by it; nevertheless, it is prudent, in order effectually to preserve its protective power, to procure new matter from the cow as frequently as possible.

"6. Revaccination is the only known method of distinguishing those of the vaccinated who remain protected from those who do not.

"7. Successful revaccination is not a certain proof that the person in whom it succeeds was liable to contract smallpox; it merely establishes a tolerably strong presumption that they were more or less liable to be so.

"8. In ordinary periods, revaccination should be practised after the first fourteen years, but sooner during the prevalence of an epidemic of smallpox.

"At a recent meeting of the London Epidemiological Society, Dr. Waller Lewis read a highly interesting and valuable paper on the Relations of Vaccination and Inoculation to Smallpox. From the facts and cases adduced by him the author drew the following general conclusions, which correspond with those at which we had previously arrived from the results of our own observations.

"1. That vaccination is a most eminent protection against smallpox.

"2. That, when perfectly performed, it is almost, and in some instances more protective than inoculation, or smallpox itself.

"3. That it appears to render some exanthemata, as, for example, measles, milder than they would have been otherwise.

"4. That neither vaccination, inoculation, nor smallpox, guarantees the individual in every instance from smallpox.

"5. That smallpox attacks some persons three times, or oftener.

"6. That there exist certain individuals who have perfect immunity from vaccination, inoculation, and smallpox.

"7. That great susceptibility to, or perfect immunity from, smallpox, is sometimes found to be common to several members of the same family.

"8. That sanitary conditions have a very powerful effect on the spread of smallpox in common with other epidemics.

"It appears, Dr. Lewis remarks, from the cases adduced by him, and the deductions therefrom, that the laws which regulate the apparent mysteries of smallpox are as follows:—

"A. Smallpox is a disease to which almost every person is liable once in his lifetime, unless protected.

"B. But there is a small fraction of the community who appear to enjoy an exemption from this law, no degree of exposure, either to vaccination, inoculation, or casual smallpox, causing them to take vaccinea or variola.

"C. That there is a certain portion, on the other hand, in the exactly opposite condition. These individuals, whose systems appear to present a soil peculiarly favourable to the development and spread of smallpox virus, are eminently susceptible of the disease. It is to this class that those persons belong who have repeated attacks of variola; who take smallpox after being inoculated or vaccinated. For such persons there is no safety but in repeated vaccination.

"D. And lastly, that between this latter class and that favoured portion of the community that possess perfect immunity there exists every shade and degree of susceptibility.

"These laws explain the apparent inconsistency in the views held respecting the protective powers of vaccination. Thus, all those individuals, forming an enormous majority of mankind, who possess an ordinary, moderate degree of liability to smallpox, are completely guarded against the influence of smallpox virus, either by perfect vaccination, inoculation, or a previous attack of smallpox; while others, who have a much greater susceptibility, will be protected by neither one nor the other."

The article on hemorrhage from the navel is of much practical importance. According to Dr. Minot, the most that can be hoped from local applications is a temporary arrest of the bleeding, until the condition of the blood can be improved. The ligature appears to be the most likely to effect this, and the sooner it is employed the better, since every drop of blood is of importance in such young subjects. I believe the best mode of employing it is to transfix the

umbilicus by two needles at right angles, and to wind the thread tightly underneath them.

The various diseases incident to childhood are treated by Dr. Condie at length, and he gives us the most recent information upon these important topics.

We cannot too highly recommend the work of Dr. Condie to the profession. It stands at the head of similar works in this country, being remarkable for its great accuracy and fulness, and the clearness and precision of its therapeutical directions. The author's familiarity with the German language has enabled him to avail himself of the best German authorities; and the frequent reference to them, as before remarked, adds much to the value of the work. E. H.

ART. XVIII.—*Transactions of the Medical Society of the State of Pennsylvania at its Annual Session, held in the City of Philadelphia, May,* 1853. Vol. III. Published by the Society. Philadelphia, 1853: 8vo. pp. 126.

THE present volume of *Transactions of the State Medical Society of Pennsylvania,* by no means equals in interest either of the two preceding. The reports it embraces are less full, and the facts detailed in them have a less important bearing. This, however, has not originated so much in a falling off in the zeal and industry of the several county societies from which these reports emanate, as in an actual want of materials for their preparation. Restricted to a history of the diseases that have prevailed during the period immediately preceding their presentation, and the relation of these to the topographical peculiarities of the districts of country, and to the meteorological condition of the seasons in which they occurred, the reports must necessarily vary from year to year, in interest and importance, according to the character and extent of the diseases that annually prevail. During the year, terminating in May, 1853, to the medical history of which the reports in the present volume of *Transactions* refer, the entire State enjoyed an unusual share of health. While there was an almost entire absence of any serious or extensive epidemic, even the ordinary endemic maladies of the different sections of the State appear to have prevailed to a much less extent, and in a much milder form than usual. There was, consequently, but little to communicate in the reports from the several counties—no opportunity being afforded, amid the general exemption from disease of the community at large, of recording observations calculated to increase our knowledge of the character and nature of disease, or of the means adapted to its prevention, mitigation, or cure.

We do not regret, however, that the reports before us have been made and published—meagre and devoid of interest though they be. Independently of the importance we attach to a regular succession of medical reports from every section of the United States, we are not certain but that light may be thrown upon the etiology of disease by the medical history of the most healthy years and localities, if due care be taken to record faithfully and minutely their meteorological peculiarities. We should desire to see a more complete series of reports than has yet been made, from every county in our State, embodying the experience of the several practitioners within its limits in reference, not merely to those maladies occurring, often at long intervals, as epidemics, but to those, also, which are endemic to their localities, or which are strictly sporadic in their character.

In the volume before us, the Address of Dr. Corson, delivered by him as President of the Society, at the opening of its late session, occupies a prominent position. It is a well-written production, somewhat discursive in its topics; embodying an expression of the writer's "thoughts on those subjects likely to occupy the attention of the Society, or which seemed to him appropriate topics for consideration."

After a brief and very appropriate allusion to those members of the Society who had died since the preceding annual session, Dr. Corson presents an ad-

mirable summary of the leading objects of the Society—which, as it presents at once a fair exposition of the true motives which should lead to an encouragement of medical organization, and of the good thence resulting, we take pleasure in laying before our readers:—

"The Society," Dr. Corson remarks, "was organized for the purpose of advancing medical science—to increase our knowledge of the laws of health, the causes of disease, and the modes of cure. If we had met only to advance our own interests; to lay plans by which we could receive greater compensation for our services, and rid ourselves of the toil and responsibility consequent to a faithful performance of duty, we would have been justified by the example of those engaged in other business pursuits. But I trust we have a higher and nobler object—self-aggrandizement has no place among the aims of this Association. The honour, humanity, and philanthropy, that have always characterized the medical profession, still animate its members, and invite to exertions for the benefit of our race. We come only that we may bring together the stores of facts and observations of the past year, that we may compare them with those which have accumulated from the foundations of the world, in order to draw instruction therefrom. We of the country come here with high hope—we look with confidence for instruction to those who, with a benevolence and self-sacrifice honourable to human nature, gratuitously bestow their daily labour upon the unfortunates who fill the great *charities* with thousands of patients afflicted with every variety of disease; and to those who, night and day, thread the streets and alleys of this great city and minister to the wants of the sick. Your great medical attainments, your well-formed habits of observation, your long and varied experience, eminently qualify you to bestow lessons of wisdom. For the much we receive, we bring to you the history of diseases as they appear throughout the State. The reports of the County Societies inform you of the cause, progress, and duration of epidemics—the circumstances by which they are modified, the class of persons most liable to be affected, and the various modes of relief which have been practised. They point out the diseases which prevail along rivers or in deep valleys—which prefer to range across mountain districts, or limestone regions, or gravelly soils—they present you with accurate geological maps, and mark the diseases which prevail in each formation. By them, you discover at a glance the immunity from, or liability to disease of the coal or iron-ore miner, who plies his work down in the deep, dark, damp mine, or of the delicate child, who, from morn till night, breathes the cottony atmosphere of the factory, or of the farmers and mechanics who enjoy the high privilege of good and wholesome food and abundant exercise in the open air. It is thus to interchange knowledge that we have come together—but not for ourselves. It is that we may return to our homes, to labour again with new and better means of relieving those who apply to us for relief. This association of physicians was too long delayed. During the long years that we stood aloof from each other, deep injuries were inflicted on the profession by the hostility of its members. Every blow struck at each other tarnished the character and lessened the respectability of our noble calling. If our profession has been dragged from the height which the world once accorded to it, it was our own fault. 'A house divided against itself cannot stand,' is as true now as when uttered eighteen centuries ago."

After pointing out the good which, in his opinion, the profession may derive from the opposition of medical quacks and impostors, and the useful lessons it may learn from the reckless or futile plans of treatment pursued by the several classes of empirics, Dr. Corson proceeds to discuss the importance of chemistry to the physician, and to the necessity of giving to it a more prominent position in our courses of medical instruction, and of insisting upon a knowledge of it as an essential prerequisite to admission to the doctorate. In all his views upon this important subject we fully concur.

The next subject noticed in the address of Dr. Corson is that of the preliminary education of those who intend to engage in the study of medicine.

"Physicians in the country," says the doctor, "have been urged to be very careful in the admission of students into their offices; to take only those who are of good character, who have some knowledge of the Greek and Latin lan-

guages, and who, in short, come up to a standard fixed by the American Medical Association. No one can be more anxious than myself, that all who commence the study of medicine should have a preliminary education even greater than that recommended; but whilst those upon whom rests the obligation to reject all who are not properly prepared to perform the duties which belong to the physician forget their obligations, and set at defiance their responsibilities, by giving a diploma to those grossly ignorant of several important branches of medical science, we may well be excused for permitting the meritorious and aspiring boy, ignorant though he be of Latin and Greek, but who has worked his way, through many difficulties, to a knowledge of that language which is spoken by twenty millions of American freemen; the language which first gave utterance to the 'inalienable rights of man;' the language of our common schools, our seminaries, and colleges; the language of the press, the bar, the pulpit, and the senate of his country; the language in which Shakspeare wrote, and Scott and Byron sung; the language which records the achievements of every science, the history of every tradition and revelation, from those contained in the rude hieroglyphics found in the monuments of Gizeh (and which date back 3893 years before the Christian era) down to the last fresh record of scientific discovery in the middle of the nineteenth century—I say, we may be excused for permitting the youth who has made himself acquainted with this language, to enter our office, and contend, with whatever disadvantage of start, with his more learned competitor for the highest honours of the profession. Shall we judge him without trial?"

All this is very true. An individual who has received a good English education, if in all other respects qualified, need not be rejected as a student of medicine. No one ever pretended that a knowledge of Greek and Latin was absolutely necessary to enable the student to acquire a knowledge of medicine, or to apply that knowledge, when subsequently he enters upon the active duties of the profession, to the investigation of disease, with the view to its prevention and cure. A sound classical education is unquestionably desirable in a physician, as well from its own intrinsic value, as to enable its possessor to take his proper rank among men of science and learning, as a member of a liberal profession. But while we are willing to admit that a knowledge of Latin and Greek is not essential to the physician, we are somewhat fearful that the remarks of Dr. Corson, which follow the passage just quoted, will be misconstrued by some into a denial on his part of the necessity of even a good English education in those who would enter upon the study of medicine.

After mentioning a few of those who have risen to eminence as men of science, and in the ranks of our profession, without the advantages of early education, Dr. Corson remarks:—

"It is useless to present more instances of men who have become eminent in this and other professions without the benefit of early education; they abound in every profession and in every department of labour. Some men, whose preliminary education has been of the most desirable kind, are so mean, selfish, unkind, and avaricious, as wholly to unfit them for the sacred duties of the physician. Others, whose opportunities of improvement have been very limited, possess the genius and all the ennobling qualities which adorn the physician and the man. Let us then look to the *general* qualifications of the student. Let us incite him to a noble emulation of the studious and the worthy. With this our duty will end. And when he shall come finally before the assembled faculty, who are to judge of his fitness for the profession that he has chosen, it will be their duty—a solemn one, indeed—to test his qualifications to perform the most responsible duties that can possibly devolve upon any human being."

It is unquestionably true, that individuals of most limited education have entered upon the study of medicine; have mastered all the difficulties incident to an acquisition of its principles, and of the numerous facts upon which those principles are based, and, by their professional skill in the practice of their profession, and their success in enlarging the boundaries of the healing art, have given to their names a merited prominency upon the roll of distinguished physicians. But this in no degree disproves the importance of a liberal preliminary education to the medical student. We admit—all must admit—that

they who are endowed by nature with the adequate mental power and energy may, by industry and perseverance, overcome early deficiencies of education, and, even with restricted opportunities for improvement, may outdistance others who, with inferior native talents and energy, have been reared from their earliest youth in schools and colleges. These individuals do not succeed, however, independently of education, but by its subsequent acquisition, with much toil and labour; all of which would have been saved them, and their onward progress in the attainment of knowledge and the investigation of truth facilitated, had they been afforded the proper opportunities for an adequate preliminary education in the outset.

"Our County reports," remarks Dr. C., "furnish some valuable facts for future generalization, but they may hereafter be of much greater value, if the attention of physicians can be specially directed to a few important subjects which have not yet found a place in our proceedings."

Among these subjects, an inquiry as to what are the diseases in which there exists a necessity for the employment of mercury as a curative agent, and into the possibility of substituting for it a less objectionable remedy of equal efficacy, is adduced.

"Let the attention of the County Societies be directed to this subject. Ask them to report to our next meeting whether there are any diseases to the cure of which mercury is absolutely essential. If so, which they are; whether they have tried the remedies recommended in the place of calomel; and if so, with what results. The science of chemistry is furnishing us with a host of new and varied preparations. There may be found a safe and efficient substitute for mercury."

The inquiry here suggested is a legitimate, and, it may be, in the end, a profitable one. For ourselves, we feel no desire to see mercury stricken from our list of remedies. It is admitted that, in common with every active article of the materia medica, its injudicious use has been productive of no small amount of evil; that even now it is often given in diseases where, to say the least, its remedial effects are extremely problematical; and that, even in those affections where it would appear to produce its best effects, it is often employed in doses much too large to be safe. Nay, farther, it is admitted that, in certain "depraved conditions of the system," severe effects are liable to follow the use of mercury, "in despite the utmost caution." Still, in the face of all these admissions, our own experience has taught us that, while it ranks among our most important remedies, fulfilling with great certainty a wide range of important indications in the management of disease, it is, at the same time, when appropriately and judiciously administered, as safe as any other of the active medicinal agents in common use. There can be no objection, certainly, to receive an adequate substitute for mercury, should such a one, perchance, be discovered; but, until then, we cannot admit the propriety of surrendering one of our most efficient remedies to the prejudices of the public, strengthened and fostered though these prejudices be by charlatans, in order to subserve their own selfish ends.

The address of Dr. Corson closes with a forcible appeal to physicians to review their practices and opinions in reference to the use of alcoholic drinks as a beverage, and as a remedy in the treatment of disease. The subject is one of vast importance, in a moral, hygienic, and therapeutic point of view, and one which, "as the conservators of the public health, as scientific practitioners, and as honest men," we are bound to examine. In view of the evils entailed upon individuals, families, and communities by the abuse of alcoholic drinks, and of the facility with which their use, under any circumstances, creates an insatiable and uncontrollable thirst for them, it is incumbent upon the physician to ponder well his serious responsibility before recommending them to his patients as a necessary or beneficial stimulant during health, as a preventive of disease in unhealthy localities or seasons, or as a restorative during convalescence.

The reports from the County Societies embraced in the present volume of *Transactions*, are thirteen in number, most of them very concise.

Among the diseases of greatest frequency in various parts of Pennsylvania

during 1852, may be ranked erysipelas. In the report of the Berks County Medical Society, it is remarked that: "Dr. P. G. Bertholet, of Oley, mentioned, at our last County Society meeting, that he has met with much of phlegmonous erysipelas, and that several deaths took place, in his vicinity, from puerperal fever."

In the report from the Chester County Medical Society, it is stated that: "Drs. Pennypacker, Worthington, and Price speak of having seen a few cases of erysipelas of the head and face, at the commencement of the year; Dr. Pennypacker himself having just then recovered from an attack of it."

In the report of the Schuylkill County Society, Dr. Carpenter remarks:—

"Erysipelas has prevailed to some extent in the spring and fall, and, in my practice, has shown a great tendency to the phlegmonous form; sometimes, when neglected, running into a typhoid fever.

"The remedy which I have used, with the most marked success for the past three years, is the muriated tincture of iron. This, with saline laxatives and cooling drinks, I believe to be an invaluable remedy. Several of my medical friends, in this county, have also tried this plan of treatment, with a like beneficial result.

"External applications are of little or no value, until an altered condition of the capillary circulation is brought about; and, when this is effected, they are not required—the disease is overcome."

In Logan's Valley, says the Blair County report, erysipelas made its appearance in January, but did not prevail extensively. In the same report, we are informed by Dr. J. D. Ross, that in Williamsburg, of Erysipelas, "Eight or nine cases occurred under his care during the year; more than half the cases were adults of various ages; the eruption occupying the face and scalp exclusively. The balance were children, the eruption occurring on the abdomen or extremities. All recovered without anything worthy of notice, either in their progress or treatment.

"Three cases of puerperal fever came under our treatment, two of them very severe, although all recovered."

In the report of the Huntingdon County Society, Dr. J. C. Hirst observes: "During the latter part of the year, there seemed to be a strong tendency to erysipelas and affections of that type; fresh wounds, although trivial, were much disposed to assume an erysipelatous character. A few cases occurred without any visible exciting cause. I have not the least doubt but that a peculiar condition of atmosphere exists to such an extent as to predispose the system to the disease above mentioned."

In the report of the Cambria County Society, it is stated, that "Erysipelas has been observed to appear more frequently in the sporadic form, and not as an epidemic, and to assume an inflammatory character. During the past year, several cases occurred along the line of the Portage Railroad, which readily yielded to the antiphlogistic treatment. 'The disease, generally, was confined to the head and face; and, as a local application, nothing appeared to produce so soothing an effect upon the patient as pieces of old muslin or linen, kept constantly smeared with *lard*, and laid over the inflamed surface. Tincture of iodine was also found very beneficial in some cases, and seemed to merit all the encomiums that have been uttered upon its use."

In the report of the Montgomery County Society, "Dr. Poley mentions having treated 'at least 100 cases of erysipelatous inflammation of the throat,' from February until the middle of June, none of which proved fatal. He says: 'The inflammation was of a diffused character, extending over the whole of the throat; there was great difficulty of deglutition, but generally not much swelling; and there was nearly always a tendency to end in ulceration or mortification, in a few days after its commencement, in bad cases; although it rarely or perhaps never terminated in suppuration. I used the nitrate of silver from the beginning, as stated in speaking of the treatment of scarlet fever. I also allowed good nourishing diet—beef broth, chicken broth, milk, &c. I regard the nitrate of silver and turpentine as almost equivalent to specifics in this disease, *when properly employed.*'

"A few cases of erysipelas are reported by Dr. Wm. Corson, in whose prac-

tice this disease made such terrible ravages in the winter of 1847 and the spring following. He met with but two fatal cases, and says that 'it showed but very little tendency to diffuse itself, and was not accompanied by puerperal fever, as it was in 1848.'

"A terrible epidemic, however, of this disease prevailed along the north-eastern border of the county, principally in the practice of Dr. Geiger, from whose notes we learn that 'the first case occurred on January 7, and the last on June 15. So closely did it resemble, in all its features, the epidemic just alluded to as having prevailed in the vicinity of Norristown in 1848, that the description of it in the *Transactions* of the State Society for 1851, will answer for this.

"Like it, it spared neither age, sex, nor condition; and like it, too, it marked the parturient woman for its especial victim. Not a single woman, living within the range of the disease, who was delivered during its prevalence, escaped an attack. Out of the twenty-nine puerperal cases attacked, seven died.

"As a proof of its non-contagiousness, and that the physician does not communicate it to those whom he may attend, I may mention that, during its prevalence, I delivered quite a large number of women in that portion of my practice where it did not exist, none of whom were affected; and that two patients, living in the infected district, who were attended by one of my students, Dr. Edwin Rottenstein, *now* of Berks County, who had not previously attended any persons labouring under it, were both attacked and both died. Another woman, who was completely delivered (so as to require no attendance) before one of my pupils reached the house, was attacked with a violent chill soon after his entrance. This was followed by the usual symptoms of puerperal fever. On the third day erysipelas appeared, very slightly, on the surface; on the sixth she died.

"Besides these cases of puerperal fever, which were evidently erysipelatous, males were frequently attacked with symptoms indicating inflammatory disease in the various internal organs, as the brain, lungs, heart, intestines, and their serous investments. That it was of an erysipelatous character, is proved by the fact that, not unfrequently, the blush made its appearance on the surface in the course of several days. When this occurred, it was always a favourable sign; none of the cases died in which its eruption was well marked.

"Altogether, I attended one hundred and twenty-eight cases, twenty-nine of which, as already stated, occurred in puerperal women. Of the remaining ninety-nine, fifty-six had the disease only externally, or in the throat, and forty-three were affected with symptoms of internal disease. None of the cases, which were affected on the surface only, died; whilst of the forty-three in which internal organs were involved, five perished.

"I cannot, of course, in so brief a communication, enter into any general details in regard to the treatment. Suffice it to say that early bleeding was usually indicated, and seemed to exert a more beneficial influence than any other remedies. Some cases, however, in which the pulse demanded it, and it had a fair trial, ran on to a fatal termination, evidently unchecked by it; but these were truly of a formidable nature. In some, the pulse was so low as to entirely preclude this treatment; these were often much benefited by affecting the system with calomel; although this indication was not very easily fulfilled. Others, in which there were tolerably distinct remissions of febrile excitement, were treated with the best effects by sulphate of quinia—showing, almost conclusively, that it is *the remedy*, in all remitting diseases, without regard to their nature. Turpentine, when the tongue assumed that peculiar condition now so well known, produced its usual good effects."

In regard to the influence of geological formation on the character of the prevailing diseases, the reports in the present volume afford us but few observations from which any general conclusions can be safely drawn. Of dysentery, it is stated in the report from Delaware County, that "the geological formation appears to have exerted but little influence over it; for though the alluvium was mostly clear, yet one district of it, which was exempt last year,

was visited during this to a very considerable extent; it also prevailed over both drift and primitive structures."

In the report from Lancaster County, we have the following statements:—

"Dysentery has been found most prevalent in the primary or slaty district. Dr. Stubbs, who practises in that section, writes that, in the little village of Fairfield, containing something over one hundred inhabitants, but four escaped the disease, which was of a mild type, yielding readily to simple treatment; many cases not coming into the hands of the physician, the people resorting to the usual domestic remedies with success. The surrounding country, he states, was entirely exempt from the disease, and for its singular occurrence at that particular point, he could assign no special cause.

"Respecting the declaration made in previous reports from some of the counties, that dysentery does not prevail upon the limestone formations, the Committee feel compelled to give their testimony against such opinion. In the city of Lancaster, and its vicinity, which is in the centre of the great limestone district, the disease is of frequent occurrence. In 1851, a most severe epidemic of the disease occurred, many cases of which terminated fatally. The disease was clearly of miasmatic origin, being wholly confined to such regions as are usually prone to the prevalence of remittent and intermittent fevers. The treatment necessary in many of the cases also proved that fact, as many would not yield until the influence of quinia was brought to bear upon them."

In the report from Blair County, Dr. Confer, of Logan's Valley, says that—

"Typhoid fever has prevailed at different periods during the whole year. It was epidemic during the winter and spring—subsiding somewhat during January and April (at which times there was a general breaking-up of ice, and an increase of atmospheric heat), and disappearing in the latter part of May. Sporadic cases occurred in the summer and the beginning of the fall, and again during the winter. The disease was not observed by me on any but slate formations since I have first seen it; and whenever it was epidemic, I found the land rough, spouting, moist, or swampy, and the thermometer low."

In the report from Huntingdon County, we have the statements of Drs. J. T. McVey, and M. Miller. According to the first, "Dysentery of a low type prevailed a few miles south of this during the months of July and August, four out of ten cases having a fatal termination. All these were located on a limestone formation, using limestone water generally; no cases occurred on any other formation in this locality during the year, to my knowledge. The only thing differing in the treatment of those cases from the usual course was in a female, aged thirty-three; when, after all the usual remedies had been used with but temporary relief for seven weeks, she was relieved and restored to health as if by magic, by an occasional dose of acetate of morphia and *electro-magnetism* freely applied."

Dr. M. Miller remarks: "About the first of October, a few cases of dysentery came under my care, but they presented nothing contagious in their character. The geological formation on which they occurred was the slate; yet I am not prepared to say that dysentery, in this Valley, has been found more frequently on that formation than on any other, some of the worst cases having occurred on a limestone formation during an epidemic in this Valley a few years ago."

The report from this County concludes as follows:—

"It remains to add, relative to *the influence which different formations of soil may exert* upon constitution and disease, that last year's experience has not thrown any more light upon the subject; nothing positive can as yet be stated, and the results of inquiry have proved too contradictory. The hilliness of the country, the smallness of the valleys, and the short continuation of the same kind of soil, are obstacles which, as yet, have prevented us from arriving at any decided conclusions or important truths in that respect. We have a geological map in preparation, and it is hoped that by its aid we may be enabled soon to contribute, with our experience, to the discoveries which are being made now everywhere on that important and interesting subject."

In the report from Montgomery County, the following remark occurs:—

"Dysentery prevailed to a trifling extent. Dr. Beaver reports twenty-seven cases, and Dr. Hiram Corson nineteen, all of which recovered. Dr. Corson's

patients all lived in the Limestone Valley, where the water that is drank is of course impregnated with the calcareous deposits of the soil."

Dr. Carpenter, of Pottsville, in the Report from Schuylkill County, remarks:—

"The influence of altitude upon the production or modification of diseases is a subject of much interest and importance, and it was my intention to have presented to this Society some facts and deductions of practical value in relation to the management of certain affections of the chest. Want of time, and other reasons not necessary to mention, will prevent me from saying more upon this subject, than that I have come to the conclusion, from the examinations I have made, and from facts that I have obtained, that, *within certain limits*, a high locality, with its consequent rarefied atmosphere, is conducive to a healthy state of the lungs, as well as to an expansion of the chest, and an increased capacity for the inhalation of air.

"At our next annual meeting I hope to present the subject to the Society more fully, and in a better form. At present, I merely suggest it for their consideration."

A map of altitudes is appended, to give an idea of the different elevations along some of the principal river-courses and lines of railroad in Schuylkill County, with some statistics as applied to rapid or sluggish descent of water in different rivers.

A very interesting paper on vaccination, smallpox, and varioloid is furnished by Dr. Gemmill, of Alexandria, Huntingdon County. In the employment of what was recommended to him as pure vaccine matter, Dr. Gemmill was unfortunate enough to communicate, by its insertion in the arm of several children, genuine smallpox. From a close examination of the details given of the several cases in which this matter was used, we are strongly inclined to believe that the scab employed in the first instance was variolous. During a practice of over thirty-six years, including six in which we held the situation of vaccine physician to a populous district, we have seen great irregularity in the progress of the arm after vaccination, and various anomalous eruptions upon the skin, in cases in which impure or deteriorated vaccine virus had been employed; but in no instance whatever have we known any affection, that could with propriety be denominated genuine variola, to occur, unless smallpox matter had been accidentally or intentionally employed. We trust that, in the information the Committee on Vaccination and Smallpox, appointed at the last meeting of the State Society, shall succeed in collecting, will be embodied the experience of the leading physicians of our State, in reference to this particular point.

D. F. C.

ART. XIX.—*A Discourse on the Life, Character, and Services of* DANIEL DRAKE, *M. D.* Delivered, by Request, before the Faculty and Medical Students of the University of Louisville, January 27, 1853. By S. D. GROSS, M. D. 8vo. pp. 92.

A Biographical Notice of DANIEL DRAKE, *M. D., of Cincinnati.* Prepared by Appointment of the College of Physicians of Philadelphia. By CHARLES D. MEIGS, M. D., Vice-President of the College. Read at the Meeting, July, 1853. 8vo. pp. 38.

DR. MEIGS, in referring to the custom of the College of Physicians of Philadelphia, to direct a memoir to be presented of every departed fellow and associate, very justly remarks, that "this custom holds out to each living member of the institution a warning and invitation to consider what manner of record shall be made as to him, and to ponder upon that course of life which may best secure for him an honourable remembrance on the one hand, or, on the other, leave him to depart from your midst, conscious that he has neither contributed nor attempted anything for the increase of the talent he had received, as a sacred trust, out of that great inheritance we have, in common, derived from the whole history of our philosophy and our art."

We know of no one whose life, character, and labours are better calculated to furnish the invitation indicated in the above quotation than the late Dr. Daniel Drake. In his early struggles, amid many difficulties, for the attainment of an adequate medical education; in his unremitting industry to improve every opportunity that presented itself for the cultivation of his mind and the increase of his professional knowledge and skill; in his untiring zeal for the promotion of education in the State and city he had adopted as his home; in his labours to increase the boundaries of medical science, and in the cheerful devotion of his time and his talents in aid of every enterprise calculated to augment the health, the comforts, and the happiness of his fellow-creatures—the humblest votary of the healing art, if endowed by nature with the requisite talents and energies, will find an example well adapted to encourage him to struggle on amid every obstacle and discouragement that may beset his path, with the certainty that, by perseverance, he may ultimately obtain a similar eminence amid his professional brethren to that achieved by his exemplar, and be able to erect for himself a monument as honourable and imperishable as the great work of Dr. Drake on the Diseases of the Interior Valley of North America.

As Dr. Meigs correctly remarks: "Dr. Drake was a man of great and merited reputation, which extends even to the outer boundaries of the republic of medical letters; and, as a citizen, he reflected honour on his country." "His name is destined to be reverently pronounced wherever the medical biography and history of America shall hereafter become known."

In the two memoirs before us, both prepared by friends who knew him well, and duly appreciated his worth, one of them having been for a long series of years his colleague as a teacher of medicine, we have a vivid delineation of the life and labours of Dr. Drake. They are alike equally honourable to the heads and hearts of their distinguished authors. The memoir of Dr. Gross enters most fully into the events of his colleague's life, and delineates with greatest minuteness his literary and professional labours, and his services as a citizen, a patriot, and a philanthropist. The memoir of Dr. Meigs is the most finished production, entering less into details, but, at the same time, portraying with equal faithfulness and warmth the leading particulars of the career of Dr. Drake, the traits of his mind and conduct, and his contributions to medical knowledge, which enroll his name among our country's most gifted sons.

Dr. Drake will no doubt be referred to as an example of the attainment of professional skill, distinguished success as a public teacher, and great facility and correctness as a medical writer, without the advantages of preliminary education. Let us hear, however, the testimony of Dr. Gross upon this subject; and we shall pause before we adduce the brilliant results of Dr. Drake's "almost unassisted course of mental development," to disprove the importance of education as a preliminary to the study of medicine:—

"Dr. Drake's own standard of medical knowledge was of the most elevated nature. No one understood better than he the importance of a thorough education and of a well-disciplined mind. His own early deficiencies, ever present and ever recurring, had made an impression upon him which nothing could efface. His occupation as a teacher of medicine had brought him, for years, in daily contact with men and youths who were not only destitute of preliminary education, but, from the want of opportunity and mental capacity, utterly incapable of acquiring any. This state of things, so prevalent and deplorable, he often lamented to his friends and colleagues, while he never failed, on all proper occasions, to assail it in his writings and prelections. The difficulty under which a teacher labours in imparting instruction to such pupils, and preparing them for the successful exercise of their high and responsible duties as practitioners, can be more easily imagined than described. His daily experience in the lecture-room, showed Dr. Drake how much of the good seed that is there sown falls upon barren soil, or how, instead of producing good fruit, it yields nothing but tares and thorns. Such was his feeling upon this subject, that, in numerous conversations he had with me respecting it, he often expressed himself as being almost ready to abandon teaching forever. Like many others, he perceived the remedy, but was unable, from the want of co-operation, to apply it. Poor as he was, he would a thousand times rather have

lectured to a hundred intelligent and well-prepared young men, than to five hundred ignorant and ill-prepared. His object was, not the acquisition of gain, but the desire to be useful and profitable to those whom it was his duty to instruct in the great principles of the healing art."

Our estimate of the character of Dr. Drake, as a man and a physician, is such as to render us desirous of seeing an extended notice of his life and labours widely disseminated; hence we join in the hope expressed by Dr. Meigs, "that a complete biography of this eminent person may, by some competent hand, be hereafter prepared." D. F. C.

ART. XX.—*L'Huile de Foie de Morue envisagée sous tous Les Rapports comme Moyen Thérapeutic, par* L. J. DE JONGH, Docteur-médecin à La Haye. Paris, 1853: 8vo. pp. 262.

Cod-liver Oil, examined in its several Relations as a Therapeutical Agent. By L. J. DE JONGH, M. D.

THIS is not, strictly speaking, a new edition of the former work of Dr. Jongh, on the Three Species of Cod-Liver Oil. Although based upon that, still, with the exception of the chemical analysis of the three species of the oil met with in commerce, in relation to which there is no important change, the entire work has been rewritten and considerably enlarged. Analyses have been added of varieties of the cod-liver oil, but little or not at all known, when the former treatise was published, as also several additional chapters, devoted to a consideration of the usual sophistications of the oil, and the means for judging of its purity; on the adaptation of its different species to particular forms of disease, and on the therapeutic action of the remedy. The chapter on the several diseases in the treatment of which the cod-liver oil is indicated, has been entirely remodelled, so as to embrace not only everything of interest, in reference to the subject, recorded since the appearance of the author's former treatise, but a series of important observations partly borrowed from other authorities, and partly made by Dr. Jongh himself; so that, in its present form, the work may be considered as a complete monograph, in the several chapters of which the reader will find a very faithful abstract of the present state of our knowledge of the chemical composition of the different species of the cod-liver oil—their relative therapeutic value, and remedial properties.

We quote from the third chapter of the present treatise, the remarks of the author on the means of determining the purity of the cod-liver oil, although we are not so well convinced, as he would appear to be, that we have not, in some at least of the other fish oils, a remedy of equal efficacy in the several forms of disease in which it has been found most beneficial.

"The salutary action of the cod-liver oil," says Dr. Jongh, "depends solely upon its particular properties, and the want of uniformity so often complained of in its therapeutic action, can only be referred to the employment of a sophisticated article. It is, therefore, all-important to be able to distinguish the genuine from the sophisticated oil, especially as there are means by which the ordinary fish oils may be well adapted to this sophistication.

"In sulphuric acid we possess a reagent by means of which the true cod-liver oil may be readily distinguished from every other oil.

"A few drops of this acid produces in the oil of olives a dirty gray colour, in the oil of poppies a deep yellow inclining to brown, and in ordinary fish oil a deep brown colour; but when added, drop by drop, to cod-liver oil, a peculiar centrifugal movement is produced from the spot at which the drops fall, and at the same time a beautiful violet tint, which is instantly changed into purple by agitating the oil.

"Many chemists suppose that this change of colour results from the iodine contained in the oil being set free by the action of the sulphuric acid; but the fact that a similar change of colour is not produced by the action of the sulphuric acid upon common fish oil, many specimens of which contain also iodine, is sufficient evidence that this explanation is not the true one.

"The observation of M. Pettenkofer (*Annalen der Chem. und Pharm.* 1844, *Bd.* lii. s. 90; *Simon's Chemistry*, trans. by Day, vol. ii. p. 193), that the sulphuric acid produces upon solutions of bile a reaction similar to that produced by it upon cod-liver oil, and of M. Strecker (*Ann. der Chem. und Pharm.* 1848, *Bd.* lxiv. s. 15), that the sulphuric acid produces similar effects upon solutions of cholinic acid, joined to the discovery I have made of the presence of the principles of the bile, and among others of the cholinic acid, in cod-liver oil, are sufficient to prove that it is to the presence of this acid in the latter that is due the change of colour produced by the action upon it of the sulphuric acid.

"This opinion, which I fully entertain, in common with Professor Pereira, was first announced by him in 1849. The objection to its correctness, which may be adduced from the fact that, for the change of colour produced by sulphuric acid in solutions of bile, it is required that a third substance should be present, namely, sugar, falls to the ground, in consequence of the discovery of M. Strecker (*Pharmaceutical Journ.* 1849, vol. viii. No. 8), that the sugar may be replaced by the acetic acid, without altering the result. Now, this acid having been found by me in cod-liver oil, the opinion of M. Pereira is thus fully sustained.

"M. Gobley (*Journ. de Pharm.* 1844, 3e série, t. v. p. 308) was the first to propose the sulphuric acid as a test for the oil of the ray, and M. Hockin for the cod-liver oil.

"Although this test will suffice to distinguish the cod-liver from every other oil, it will not, however, answer to distinguish from the genuine oil, the various mixtures of this with ordinary fish oils, or with the vegetable oils, unless the quantity of the first is very small. When the amount of genuine oil present in the mixture is more considerable, the sulphuric acid produces the characteristic change of colour.

"Although the amount of iodine contained in cod-liver oil often varies, I have, nevertheless, proved by repeated experiments that the quantity of iodine present is the best means by which to distinguish the genuine oil from the mixtures referred to. An experience of many years has taught me that the pure oil contains always a medium amount of from 0.020, to 0.030 parts in the hundred of iodine; hence, I regard as mixtures of the cod-liver oil with oils of non-remedial properties every specimen of the article containing a less quantity of iodine than just indicated.

"The mixture of other oils with iodine or various iodurets are without difficulty detected. Genuine cod-liver oil, when treated with water or alcohol, never gives up to these fluids the iodine contained in it, while the iodine and iodurets mixed with other oils are always extracted by this procedure.

"The genuine oil, when carbonized, without being first saponified, and the carbon is then separated by means of alcohol, does not betray the least trace of iodine, while it is invariably detected when other oils, combined with almost any of the iodurets employed medicinally, are treated in the same manner. Finally, the genuine oil, when saponified, never communicates to the mother water the slightest trace of iodine; while the contrary is the case when other oils combined with iodine, either in a free state or in any of its combinations, are subjected to saponification.

"A series of experiments have proved to me that, by the above means, we can readily detect in sophisticated oils iodine, the iodurets of potassium, sodium, magnesium, and calcium; the deuto-ioduret of mercury, the iodides of potass, soda, and mercury, as well as the different combinations of iodine with phosphorus."

Some interesting observations are presented by M. Jongh, in reference to the comparative curative powers of the three species of cod-liver oil met with in commerce.

From Norway we receive three varieties of the oil, the *pale* or white oil, or, as Dr. Jongh remarks, what should more properly be denominated the yellow oil, the *brown* or light brown oil, and the *black* or dark brown oil.

"The difference of colour, taste, and odour of the several species of cod-liver oil, as well as the difference in their chemical composition, although this latter is often produced by other causes, results chiefly from the different modes in

which they are prepared, causing certain principles to be present in a greater quantity in one species than in another." "Thus, the oil obtained by spontaneous exudation, has always a clear yellow colour, when it is immediately separated from contact with the livers from whence it has exuded. The oil obtained by a moderate heat is of a clear brown colour; a similar shade may be produced in the pale oil by allowing it to remain too long in contact with the livers. Finally, the employment of a greater degree of heat produces always the species of oil designated as the black.

"The putrefaction of the livers, and the action of a heat, more or less intense, upon the animal fat, exercising, necessarily, a considerable influence in the formation of the volatile acids, it results, consequently, that the pale oil, which exudes spontaneously from the livers previously to the actual occurrence of putrefaction, must possess these only to a small extent; that the brown oil, which has remained a longer time in contact with the livers, or has been obtained by the employment of a moderate degree of heat, will contain more of them; while the black oil, which has remained still longer in contact with the livers, and besides, has been subjected to a more intense heat, will contain the largest amount. Hence, results the less decided taste and odour of the pale oils, and the strong taste and smell of the dark oils.

"The other causes which influence the smell, taste, and colour of the oil, are its being too long kept in storage, and the action of the air. The merchants of Norway attribute the change which the colour of the oil undergoes, when kept too long in casks, to the action on it of the oak staves of which the casks are formed, while the augmentation in the taste and odour of an animal fat, such as the cod-liver oil, is readily explained by the action of the air, which, as we are aware, favours the transformation of the fixed fatty acids into volatile acids."

"Although the oil received from Norway presents an infinity of shades, with respect to colour, taste, and smell, I believe that the physician may confine himself to the three varieties above mentioned, inasmuch as the difference between these has direct reference to the different modes in which they are prepared, while the intermediate shades are merely produced by accidental circumstances, and are of no moment in a medical point of view.

"Besides these three species of cod-liver oil, obtained principally from Norway, it is necessary now to admit a fourth. I refer to that which for a few years past was prepared in small quantities by the English pharmaceutists, but is at present prepared on a large scale in Newfoundland. This oil is distinguished from the three kinds above noticed, in its being almost without colour, taste, or smell. Its mode of preparation, it being obtained from the livers previously to their putrefaction, explains its want of taste and smell; the putrefactive fermentation of the livers causing the development of the volatile acids, to the presence of which is due the peculiar odour and the taste, more or less decided, of different species of the oil. So also in regard to the bilious principles, these are necessarily extracted in great part from the English oil, by the water employed in its preparation, and in which they are soluble."

From a series of experiments undertaken by Dr. Jongh, with the view of determining which of the three species of the oil met with in commerce is possessed of the greatest efficiency as a remedial agent, he concludes, that in all cases in which the employment of the cod-liver oil is indicated, its curative powers will be obtained, whether the pale, the brown, or the black is employed, provided each be genuine and unmixed; but that these powers will be evinced much more promptly by the last species, less so by the second, and still more slowly by the first. The deeper-coloured sorts possessing thus in the highest degree the remedial properties of the oil, Dr. Jongh has confined himself to the employment of these as a therapeutic agent, choosing, however, the brown oil, from the difficulty there is in inducing patients to take for a sufficient length of time the black species, in consequence of its nauseous smell and taste.

"The difference," remarks Dr. Jongh, "that I have observed in the action of the three species of cod-liver oil, can only be attributed to their different chemical composition. Even had this not been proved by my analysis of them, I should nevertheless not hesitate to assume it as an irrefutable position, inasmuch as without a difference of composition a difference of action is inadmissible."

But, he adds, by a series of chemical analyses, it has been shown that "the lighter-coloured oils are the most rich in inorganic principles, while those of a darker hue contain in greater abundance the bilious principles and volatile acids. It is on this account we believe, and not without reason, that these latter, although not to be regarded as the only, are yet the most active principles of the oil, and that the circumstances by which these principles are developed in the greatest quantity in the deeper-coloured oils, exert a considerable influence in enhancing their remedial powers."

The entire treatise of Dr. Jongh is replete with interest, and may be consulted with profit, as well by the pharmaceutist as by the physician. D. F. C.

Art. XXI.—*On the Nature and Treatment of some Painful Affections of Bone.* By Langston Parker, Professor of Anatomy in Queen's College: Surgeon to Queen's Hospital, Birmingham, England. London, 1852. 8vo. pp. 16.

We are indebted to the author for a copy of his interesting paper, read before the Medico-Chirurgical Society of Queen's College, Birmingham, October 19, 1852. Its object is to recommend the operation of trephining in some painful affections of the bones, "for the purpose of relieving diseased conditions of their interior, besides those which are marked by the formation of matter." He states that he was first induced to attempt this operation by the report of the case in which Sir Benjamin Brodie, suspecting the existence of matter, trephined the humerus of a patient; but although the instrument penetrated completely from one side of the bone to the other, no matter escaped. "Sir Benjamin thought that he had committed a blunder, but the wound healed well, and the relief to pain was complete." Many of these painful affections of bone, Mr. Parker believes to be due to an inflammation of the medullary membrane of the shaft, or that which lines imperfectly the cancelli and canals of the extremities of long bones; and as this membrane is inclosed in an unyielding bony case, of course its diseases must be accompanied by extreme pain. He is very sanguine that amputation may frequently be avoided by perforating the bone, and, if necessary, promoting the discharge by the introduction of a seton. A fixed and continued pain in a bone, with or without enlargement of its shaft, of sufficient violence to threaten the destruction of the health and life of the patient, and the failure of all remedies adopted for its relief, he regards as a sufficient indication for the operation. He observes: "I have now performed the operation I have just alluded to, in six different cases, for painful affections of the long bones, which have resisted all other modes of treatment, and in each case with success. No constitutional disturbance of any importance has followed any of these operations. In Chatwin's case, the pain consequent upon the perforation of the bone was severe for some days, but this was much more bearable than the pain for which the operation was performed. It subsided at the end of that period, and the patient has since enjoyed the best health."

In one case, where the inflammation of the medullary membrane was of venereal origin, and the pain had resisted the use of blisters, opiates, iodide of potassium, &c., and was at times so excessive that the patient frequently implored him to amputate the limb, the trephine, though not carried through the bone, afforded complete relief. As this membrane is liable to become inflamed in scrofula, syphilis, rheumatism, and from wounds, of course cases must not unfrequently occur in which the surgeon, by making a timely opening, may be of immense service to his patient. We regret that we cannot insert some of the cases detailed by Mr. Parker. They are full of interest and instruction. Even without their support, however, a plan of treatment proposed by this well-known syphilographic and able surgeon should be entitled to the most respectful consideration. The perusal of his little pamphlet has afforded us much pleasure and profit. G. C. B.

ART. XXII.—*Principles of Medicine: comprising General Pathology and Therapeutics, and a brief General View of Etiology, Nosology, Semeiology, Diagnosis, Prognosis, and Hygienics.* By CHARLES J. B. WILLIAMS, M. D., F. R. S., Fellow of the Royal College of Physicians, etc. etc. Edited, with Additions, by MEREDITH CLYMER, M. D., etc. etc. Fourth American edition, revised. Philadelphia: Blanchard & Lea, 1853. 8vo. pp. 476.

WITH this very able treatise the medical profession are now perfectly familiar, and have very generally evinced their appreciation of its merits. It will be unnecessary, therefore, in announcing the appearance of this fourth American edition, to enter into an examination of the manner in which the author has fulfilled the task assumed by him, that of presenting a fair abstract of the present state of our knowledge in reference to the several subjects it embraces.

The chief aim of Dr. Williams appears to have been, to present those facts within the domain of his general subject which have been the most fully verified, and those deductions that seem the most tenable, excluding all doubtful observations, and a host of discordant opinions little calculated to improve our acquaintance with the true principles of medicine.

The work, though it embraces a candid exposition of the labours of all those who have contributed most to the improvement of the departments of general pathology and therapeutics, is not to be viewed in the light of a mere compilation. Its pages present many facts derived from the author's own observations, and views original with him; which latter, even though occasionally in opposition to those held by distinguished cultivators of the same fields of inquiry, are deserving of a careful and candid consideration.

Taken as a whole, the treatise will be found a faithful guide to the student, and a useful book of reference for the practitioner. D. F. C.

ART. XXIII.—*The Action of Medicines in the System; or, "On the Mode in which Therapeutic Agents introduced into the Stomach produce their peculiar Effects on the Animal Economy." Being the Prize Essay to which the Medical Society of London awarded the Fothergillian Gold Medal for* MDCCCLII. By FREDERICK WILLIAM HEADLAND, B. A., M. R. C. S., etc. Philadelphia: Lindsay & Blakiston, 1853. 8vo. pp. 560.

THE inquiry to which the present dissertation is devoted, is confessedly a most important one. As the author very properly remarks: "For the proper perfection of medicine as a rational science, two things are in the main needed; the first is a right understanding of the causes of disease, the second, a correct knowledge of the action of medicines. Should our acquaintance with these two subjects be complete, we should then be able to do all that man could by any possibility effect in the alleviation of human suffering."

It is certainly a mortifying fact that, notwithstanding the rapid advance which most of the departments of medical science have made during the present century, still, in the actual amount of our knowledge of the action of medicines and of their agency in the cure of disease, we do not greatly excel our predecessors. A vast number of new and potent remedies, it is true, have of late years been added to our lists of the materia medica, but still, even of these, the true therapeutic action and application are but imperfectly understood. As well remarked by Dr. Headland:—

"On no question, perhaps, have scientific men differed more than on the theory of the action of medicines. Either facts essentially opposed and incompatible have been adduced by the disagreeing parties; or, which is nearly as common, the same fact has received two distinct and opposite interpretations.

Many hypotheses, when tested, are seen to be grounded on bare assertions, and to be destitute of logical proof; many others are attempted to be established on ill-sustained analogies. Analogy, in such a case as this, may be used to increase a probability already evidenced; but, by itself, it is no proof, for we find often that medicines are capable of producing the same result in very dissimilar ways."

The inquiry into the *modus operandi* of medicines is one of great extent, and beset with many difficulties. "In reasoning as to the probable effects of particular remedies on the human body," says Glassford, in his *Principles of Evidence*, as quoted by our author, "the conditions and circumstances of the latter are so various in different cases, and the number of concomitants which have to be considered in addition to the more obvious facts and symptoms is so great, that the utmost exertion of human sagacity, founded upon the largest induction of particulars which any one mind is capable of embracing and retaining, can do no more than approximate to that real evidence with which the case seems by its proper nature to be susceptible."

In a task at once so extensive and difficult, should it be found that Dr. Headland has failed in its entire and satisfactory execution, he must nevertheless receive our thanks for his zeal and courage in undertaking it; more especially as by the extent to which he has succeeded—the important hints he has thrown out, and his careful collation of the facts bearing directly upon the several points of inquiry embraced in his general subject, he has prepared the way, by following which future labourers may advance still farther in the elucidation of the great problem: In what manner do therapeutic agents act in the removal of disease?

We present the ten propositions laid down by Dr. Headland in relation to the general modes of action of therapeutic agents introduced into the stomach. From these will be perceived the leading conclusions at which he has arrived. They are certainly deserving of a close and favourable consideration, and the last four, to say the least of them, would appear to present a far more accurate basis for the classification of the materia medica than any of those previously adopted:—

"*Proposition* I. That the great majority of medicines must obtain entry into the blood, or internal fluids of the body, before their action can be manifested.

"*Prop.* II. That the great majority of medicines are capable of solution in the gastric or intestinal secretions, and pass without material change, by a process of absorption, through the coats of the stomach and intestines, to enter the capillaries of the portal system of veins.

"*Prop.* III. That those medicines which are completely insoluble in water, and in the gastric and intestinal juices, cannot gain entrance into the circulation.

"*Prop.* IV. That some few remedial agents act locally on the mucous surface, either before absorption, or without being absorbed at all. They are chiefly as follows:—

"*a.* Irritant emetics.

"*b.* Stomach anæsthetics.

"*c.* Irritant cathartics.

"*Prop.* V. That the medicine, when in the blood, must permeate the mass of the circulation, so far as may be required to reach the parts on which it tends to act.

"That there are two possible exceptions to this rule:—

"*a.* The production of sensation or pain at a distant point.

"*b.* The production of muscular contraction at a distant point.

"*Prop.* VI. That while in the blood the medicine may undergo changes, which in some cases may, in others may not, affect its influence. That these changes may be:—

"*a.* Of combination.

"*b.* Of reconstruction.

"*c.* Of decomposition.

"*Prop.* VII. That a first class of medicines, called Hæmatics, act while in the blood, which they influence. That their action is permanent.

"1. That of these, some, called Restoratives, act by supplying, or causing to be supplied, a material wanting; and may remain in the blood.

"2. That others, called Catalytics, act so as to counteract a morbid material or process; and must pass out of the body.

"*Prop.* VIII. That a second class of medicines, called Neurotics, act by passing from the blood to the nerves or nerve-centres, which they influence. That they are transitory in action.

"1. That of these, some, called Stimulants, act so as to exalt nervous force, in general or in particular.

"2. That others, called Narcotics, act so as first to exalt nervous force, and then to depress it; and have also a special influence on the intellectual part of the brain.

"3. That others again, called Sedatives, act so as to depress nervous force, in general or particular.

"*Prop.* IX. That a third class of medicines, called Astringents, act by passing from the blood to muscular fibre, which they excite to contraction.

"*Prop.* X. That a fourth class of medicines, called Eliminatives, act by passing out of the blood through the glands, which they excite to the performance of their functions."

The correctness of the first six of these propositions will, we think, be very generally admitted. The last four will probably meet with more opposition; and yet, as the basis of a general classification of remedies, they appear to us to have strong claims to our attention. The greatest difficulty is to decide which of the several articles of the materia medica are to be arranged in one or other of these classes. In regard to many, their proper position is very evident; in regard to others this, however, is by no means so readily determined. The difficulty has been felt by Dr. Headland, who has laboured to overcome it with a good deal of skill and some success.

The first class of medicines—HÆMATICS—Dr. H., as we have seen, divides into *restoratives* and *catalytics*. With respect to the first, he remarks that what is stated in the general proposition with respect to their action, resolves itself into the following simple affirmations or minor propositions.

"1. That they act in the blood, and that their effect is permanent.

"2. That there are naturally in the blood substances which resemble or coincide with them.

"3. That they are not of necessity excreted, but may remain in the blood.

"4. That they are of use when a disease depends on the want of one or more materials in the blood."

The restoratives are divided into six orders.

1. ALIMENTS. 2. ACIDS. *Mineral:* Sulphuric, hydrochloric, nitric, and phosphoric. *Vegetable:* Acetic, citric, tartaric, and malic. 3. ALKALIES—Potash, soda, ammonia, lime, magnesia; their carbonates, and neutral acetates, citrates, and tartrates. 4. TONICS—*Alkaloids* and neutral principles—quinia, cinchonia, bebeerine, narcotine, salicine, etc. *Bitter drugs*—cinchonia, quassia, cusparia, gentian, calumba, chiretta, centaurium, meyanthes, rhubarb, hops, elm and willow barks, tansy, wormwood, chamomile, cascarilla. 5. CHALYBEATES—protoxide, sesquioxide, and sesquichloride of iron. Salts of iron, viz: the carbonate, protosulphate, persulphate, phosphate, pernitrate, peracetate, ammonio-citrate, potassio-tartrate, vinum ferri, chalybeate waters. 6. SOLVENTS—*Antilithics.* The mineral alkalies, their carbonates, and neutral salts, with vegetable acids. Biborate and phosphate of soda. Benzoic and cinnamic acids. ANTIPHOSPHATICS—mineral and vegetable acids. Sour fruits.

The second division of hæmatics, the CATALYTICS, Dr. H. distributes into eight orders. The statement in the general proposition in reference to these remedies, may be divided, he remarks, into the following minor propositions:—

"1. That they act in the blood, and that their effect is permanent.

"2. That each of itself tends to work out a peculiar operation in the blood.

"3. That the diseases in which they are used depend on certain morbid materials, or actions in the blood.

"4. That the result of the action of a catalytic medicine is in some way to neutralize or counteract some one or more of these morbid processes.

"5. That these medicines are all unnatural to the blood, and must at length pass out of the system."

The eight orders of catalytics, are as follows: 1. ANTIPHLOGISTICS—Antimonials, mercurials, alkalies, salines. 2. ANTISYPHILITICS—Mercurials, preparations of gold, iodide of potassium, sarsaparilla (?). 3. ANTISCROFULITICS—Iodine, bromine, chlorine, iodides and bromides, potash. 4. ANTIARTHRITICS—Colchicum, nitro-hydrochloric acid, lemon-juice. 5. ANTISCORBUTICS—Citric acid, lemon-juice, fresh vegetables, salts of potash (?). 6. ANTIPERIODICS—Arsenious acid, arsenite of potash, alum, chloride of sodium. 7. ANTICONVULSIVES—Preparations of arsenic, silver, zinc, lead, and copper. 8. ANTISQUAMICS—(*Removers of skin disease*)—Preparations of arsenic, sulphur, pitch.

Of the second class of remedies, or NEUROTICS, Dr. H., as we have seen, makes three general divisions: *Stimulants, narcotics,* and *sedatives.*

The minor propositions in reference to neurotics are thus stated:—

"1. That neurotics are medicines which pass into the blood.

"2. That their action is evidenced by a change in one or more of those functions which are attributed to the nervous system.

"3. That it is necessary that they should pass from the blood to that part of the nervous system which is influenced by them.

"4. That they are of use in an over-excited or depressed state of the nervous system.

"5. That they are transitory in action, and cannot remain in the blood."

The STIMULANTS, Dr. H. divides into *general* and *specific.*

The general stimulants are, *Mineral substances:* Ammonia and its carbonates, phosphorus. *Animal substances*—Musk and castor. *Vegetables containing volatile oils*—The aromatic labiatæ, compositæ, and umbelliferæ, cloves and nutmeg, cinnamon, cassia, sassafras, rue, barosma, the aurantiaceæ, canella, valerian, mustard, cajeput and pimenta, hops, juniper, turpentine, cardamom, onion. *Vegetables containing acrid principles*—Senega, horseradish, serpentary, cascarilla, pepper, contrayerva, ginger, capsicum, mezereon. *Resinous substances*—Guaiacum, mastich, olibanum, myrrh, elemi, benzoin, storax, pine resin.

The special stimulants are, strychnia, brucia, toxicodendron, ergot of rye, borax, rue.

NARCOTICS are divided into three orders—*Inebriants, soporifics,* and *deliriants.* As inebriants, Dr. H. enumerates alcohol, wine, ethers, chloroform, camphor, Indian hemp, tobacco, lobelia. As soporifics—opium, lactuca, hops, nutmegs. As deliriants—hyoscyamus, belladonna, stramonium.

SEDATIVES are divided into two orders—*General* and *specific.* As general sedatives, are enumerated hydrocyanic acid, creasote, aconite, conium, colchicum, tea, and coffee. As special sedatives—antimonials, ipecacuanha, digitalis.

The third class of medicines are the ASTRINGENTS.

The general proposition in reference to the action of these remedies, Dr. H. divides into four minor propositions:—

"1. That they are medicines which pass into the blood.

"2. That they have the power of causing the contraction of muscular fibre, living or dead.

"3. That their operation is to diminish secretion, to repress hemorrhage, and to give tone to the muscular system.

"4. That these results are to be accounted for by their action on muscular fibre, to which they pass from the blood."

They are divided into two orders—*Mineral* and *vegetable.*

The *mineral astringents* are, sulphuric, nitric, and hydrochloric acids; acetate and diacetate of lead, sulphate and sesquichloride of iron, alum, sulphate of zinc, sulphate of copper, bichloride of mercury, nitrate of silver. The *vegetable astringents* are, tannic acid, gallic acid, kino, catechu, logwood, oak-galls, rhatany, bistort, pomegranate rind, rose leaves, uvæ ursi, tormentil, and creasote.

The general proposition in reference to the action of the fourth class of remedies, the ELIMINATIVES, is divided into five minor propositions by Dr. H.:—

"1. That eliminatives are medicines which pass into the blood.

"2. That they cannot remain there, but must pass out of the body.

"3. That in so doing, they tend to pass out by some glands more than by others.

"4. That the result of their passage through a gland is to increase its secretion.

"5. That they are of use when the state of the system requires that the function of a gland should be restored or promoted."

The eliminatives are divided into six orders—*Sialagogues, expectorants, cathartics, cholagogues, diaphoretics, diuretics.*

Of sialagogues, mercury is the most important. In some rare cases, salivation has followed the administration of iodine. It is also not an unfrequent symptom of chronic poisoning by lead.

As *expectorants*, Dr. H. thinks that we may class antimony, ipecacuanha, and squill. The chief volatile expectorants enumerated by him are turpentine, camphor, alcohol, ether, and the volatile oils of onions, fennel, assafœtida, caraway, cinnamon, and anise.

Cathartics Dr. H. divides into three groups:—

"1. Mercurials, which tend to increase all secretions. 2. Some resins, oils, and acrid principles, which tend especially to the bowels; and 3. Salines, when given in such an amount that they cannot pass off by the kidneys."

Of *cholagogues*, Dr. H. remarks:—

"We are not well informed as to the exact number of medicines which pass out into the secretion of bile, and act thus on the true eliminative plan. But there is no medicine which is of such great and universal utility in all liver diseases as mercury, in its various forms." "It is probable that alkalies and fatty matters may act in certain cases as true cholagogues, for they are both contained in the natural secretion of bile, and, therefore, likely to pass into it."

Under the head of *true diaphoretics*, Dr. H. remarks as follows:—

"The following groups of medicines may be briefly noticed as tending to act as eliminatives on the glands of the skin. Five divisions may be made:—

"1. Salines and diluents, under certain circumstances. 2. Volatile substances which are soluble in air, as ammonia, volatile oils, and alcohol. 3. Certain acrid matters, as guaiacum. 4. Certain narcotics, as opium and camphor. 5. Antimony, mercury, and sulphur."

The *diuretics* are arranged in four groups: 1. Water, and soluble mineral substances, *i. e.* acids, alkalies, and salines under certain conditions. 2. Acrid matters of various kinds—cantharides, juniper, turpentine, cajeput, copaiba, horseradish. Others of this group contain peculiar vegetable principles, as broom, chimaphila, taraxacum, colchicum, and squill. 3. Alcoholic and ethereal liquids. 4. The minerals which increase all secretions, as mercury, antimony, and iodine.

"There are," Dr. H. remarks, "two chief actions for which diuretics may be required. They may be used: (1) to eliminate solid materials from the blood; (2) to promote absorption, by diminishing the amount of fluid in the blood. It is easier to employ the first than to exert the second of these operations."

The foregoing sketch will enable our readers to form some idea of the views advanced by Dr. H. in the dissertation before us. The leading outlines of his theory of the action of medicines is no doubt correct, though it will probably be found that he has not always succeeded in applying it to explain the entire *modus operandi* of certain articles of the materia medica. We recommend the work as one replete with information on a subject in relation to which there has heretofore been too much vague conjecture and hypothetical speculation. From a careful perusal of Dr. H.'s treatise, the practitioner cannot fail to derive many hints in reference to the therapeutic action of the leading remedial agents calculated to divest their employment of much of the empiricism by which it is now characterized, and at the same time to render their curative operation more prompt and certain.

D. F. C.

ART. XXIV.—*Elements of Chemistry, for the Use of Colleges, Academies, and Schools.* By M. V. REGNAULT. Illustrated by nearly seven hundred wood-cuts. Translated from the French, by T. FORREST BETTON, M. D., M. A. N. S., and edited, with Notes, by JAMES C. BOOTH, Melter and Refiner U. S. Mint, and WILLIAM L. FABER, Metallurgist and Mining Engineer. Philadelphia: Clark & Hesser. 2 vols. 8vo.

THE above work, in its American dress, is comprised in two large octavo volumes, and printed in larger type than is usually applied to works of this class. The author, although young in years, has acquired for himself, by his investigations in chemical and physical science, a reputation for accuracy, industry, and skill, which renders very acceptable every offering he may make towards the improvement or extension of knowledge. The author, in presenting to the public his *Elements of Chemistry*, has used the term chemistry in its most restricted sense, considering the phenomena only which result in a total change in the constitution of matter, and hence has entirely omitted those subjects (heat, light, &c.) which strictly belong to physics, but which, from their close relation, are usually considered as necessary preliminaries to the study of chemical science. In this arrangement, the subjects usually treated of under caloric, viz: distillation, congelation, solution of solids and gases, and density of gases, and polarization of light and gases, are introduced under appropriate heads, wherever the operations are requisite.

The introduction commences with a short account of chemical affinity, and the laws by which it is regulated; the physical characters of matter are next considered, and full attention devoted to the principles of crystallography, and concludes with chemical nomenclature and notation. On account of the great and increasing importance of its relations to chemical theory, the subject of crystallography is explained in detail, and systems of crystallization, with the connections of their different axes, copiously illustrated by wood-cuts, which are well adapted to aid in conveying correct ideas on the most abstruse points, and facilitate its study. In chemical nomenclature, the most common form of expression is adopted, and the notation used is in conformity with this view.

The elements themselves next come under consideration, and, for convenience, are arranged into two groups, metalloids and metals; and after the treating of any individual substance, the combinations it may form with preceding elements, are noticed, an exception, however, being taken with regard to the compounds of carbon, which are deferred to the organic part of the subject. The metalloidal elements themselves are brought under notice in a succession corresponding to the extent of their natural distribution and chemical importance.

The illustrations of the operations necessarily conducted in the laboratory are such as would enable any one to arrange for himself the apparatus necessary to learn practically the methods of preparing and collecting the gases, liquids, and solids, and investigating their properties, and to understand the operations as carried on on a large scale by the manufacturer. Very considerable attention has been bestowed on the applications of chemistry to the arts and sciences; and, in the remarks introductory to the metals, an illustrated explanation of the constitution of the crust of the globe, the changes produced by successive upheaval and subsidence, the formation of metallic veins and their general relations, afford interesting subjects for contemplation. The metallurgy of the principal metals, and the modes of testing the ores, are introduced under their appropriate heads, together with the various products to which they give rise. The last part, or organic chemistry, is set forth in the order which, until lately, has been usually adopted—commencing with organic analysis, the extensively diffused immediate principles of plants, gum, starch, sugar, &c., and the changes they undergo through the action of various agents; there succeeds an account of organic acids, alkalies, neutral principles, essential oils, &c.; products of dry distillation, fats, organic colouring matters, followed by a consideration of animal products, and their relations; and, in conclusion, the applications of the

facts set forth to practical purposes, in fermentation, sugar-refining, bone-black manufacture, dyeing, tanning, &c.

The translation of the work is of a creditable character, and throughout has exhibited a freedom from idiomatic expression, which it is difficult to avoid in transferring ideas from a foreign language, especially in a long work, where their constant recurrence is apt to leave a strong impression on the mind. The American edition is indebted to the editors for many valuable notes, among the larger of which may be noticed the employment of waste heat of furnaces, refining of gold at the United States Mint, and paired organic compounds and compound radicals, each distinguished by the editor's initials. R. B.

ART. XXV.—*Principles of Organic and Physiological Chemistry.* By CARL LÖWIG, Ordinary Professor of Chemistry in the University of Zürich, &c. Translated by Daniel Breed, M. D., of the U. S. Patent Office. Philadelphia: A. Hart, 1853. 8vo. pp. 481.

THIS work, intended as a text-book for professors and their classes, presents a very condensed, systematic abstract of scientific organic chemistry, as far as present research has enabled them to be arranged, according to their intrinsic relations. In translating this work, Dr. Breed has rendered great service to the American student of chemistry. Having been a pupil of the author, he had acquired, by familiar intercourse, facilities which enabled him to accomplish his task in a very successful manner.

The *Principles* contain within itself nearly all that is known in this department, and much which has not yet found its way into systematic treatises. The work is divided into two parts: a general part, which treats of the constitution and formation of organic bodies, with the constitution of organic radicals; and the latter, of the different compounds, arranged systematically in several classes and groups, according to their presumed relation and probable constitution.

The immense number of organic products formed from few elements, and the great dissimilarity of properties, associated with apparent similarity of composition, has given rise to the inquiry as to the modes by which these results have been brought about. The author has adopted the theory of radicals, or the idea that compound bodies may act the parts of roots or starting-points from which more complex forms may be produced by union with others, either elements or compounds, and, at the same time, has kept in view the substitution of elements which may take place without change of type; which, with its extension in the nucleus theory, has been considered as opposed, but which, from recent investigations, appear to be consistent with each other, and which the author has endeavoured to reconcile.

Whatever may be its ultimate fate in the progress of investigation, the arrangements and views presented at present afford much insight into the nature and construction of organic bodies, and rational explanation, in a comprehensive, and, at the same time, simple view, of the very numerous compounds which result from the union of but few elements. Thus, the class of hydro-carbyls give the starting-point for many compounds, and as under these views they may be considered as formed in two parts, one of which may be passive and the other active, each performing the part of a compound element in the same way that an elementary body does in inorganic compounds. It thus becomes easy to understand the difference of properties, when we can perceive a difference in the internal arrangement of the parts entering into the construction of the whole. Several compounds having the same ultimate composition may thus be referred to entirely different groups, the essential character of each group affording means to trace their relations; as, for example, a body may be derived from members composed of $C_{12}H_5$, and be a compound of Benzol, the proximate composition of which is expressed by the formula, $2\ C_2H_2,C_{32}H$; or of Phenol,

$C_2H_2\frown(C_2H_2,C_6,H)$; or of Niceyl, 2 C_2H_2,C_6,H; the difference of the arrangement into compound elements clearly giving difference of properties.

The special part is distributed under seven heads: 1. Hydro-carbyls, compound of carbon and hydrogen, as radicals; 2. Carbyls, carbon as a radical; 3. Azo-carbyls, carbon and nitrogen compounds; 4. Hydro-azocarbyls 5. Hydrils; 6. Complex organic substances; 7. Products of decomposition.

Under these heads all the organic compounds are distributed, and a copious index gives its aid in any research after the names of compounds, while the arrangement of the table of contents, in which the constitution and composition is given, facilitates reference, when the composition is known or the object interests.

The study of the work will well reward the investigator, and create in him a desire for the speedy appearance, in an English dress, of the large work now being revised by the author, and of which this is a compend. R. B.

ART. XXVI.—*The Maternal Management of Children, in Health and Disease.* By THOMAS BULL, M. D., etc. etc. Second edition. Philadelphia: Lindsay & Blakiston, 1853. 12mo. pp. 424.

WE are pleased to see a second edition of this very sensible treatise. Were it generally circulated among mothers, and could they be induced to study with care and carry out in practice the excellent precepts inculcated by the author in reference to the management, during health and disease, of their offspring, much good would result. Even if nothing more were effected by the sound practical teachings of the author than the banishment from the nursery of the numerous errors and prejudices in regard to the physical and dietetic management of infants and children which there still prevail, the work would prove a blessing to every family, and save its youthful members from much temporary discomfort, and not a few evils, the effects of which are too often experienced throughout every portion of their future lives. Even the second part of the work, devoted to the proper management of children in disease, is well calculated to diminish domestic quackery, and to warn the mother to seek, in the incipient stages of the several diseases incident to this period of life, competent medical advice. The author, in his remarks in regard to these diseases, while he communicates much that it is important parents should be familiar with, has very skilfully avoided the dangerous error of leading them into the belief that, without the aid of a skilful physician, the maladies of infancy and childhood can be properly and safely managed. D. F. C.

ART. XXVII.—*Dr. Hooper's Physician's Vade Mecum; or, A Manual of the Principles and Practice of Physic. Considerably enlarged and improved, with an Outline of General Pathology and Therapeutics.* By WM. AUGUSTUS GUY, M. B. Cantab, &c., author of "Medical Jurisprudence," &c. With Additions, by JAMES STEWART, A. M., M. D., Fellow of the College of Physicians and Surgeons, author of "A Practical Treatise on the Diseases of Children," &c. Philadelphia: Barrington & Haswell, 1853. 12mo, pp. 541.

THIS belongs to a class of works of the beneficial tendency of which we have more than once expressed our doubts. We cannot entertain the hope expressed by its author, "of its proving useful to students, and those practitioners in medicine who, from their professional occupations or other circumstances, may not have it in their power to consult the more voluminous works that have contributed so much to the improvement of medicine." That, in its present form,

with the additions it has received at the hands of its English and American editors, it presents a very fair outline of "the principles and practice of physic," is admitted. But, nevertheless, an outline so brief and general, that it can afford but little aid to the student in indoctrinating him into even the principles of physiology, general pathology, and therapeutics—the semeiology and diagnosis of diseases and their therapeutical management, or to serve the practitioner as a work of reference in cases of doubt and emergency.

To the student, works of the character of the one before us may, to a certain extent, prove useful, as simple remembrancers, when, in his own mind, he passes over the several branches of medical science to which his attention has been directed, with the view of determining his proficiency in each. When employed solely with this intent, the outline presented by the manual, if it be accurate and distinct, as is generally the case in the one before us, cannot be too brief and general. It is by his facility in filling it up, so as to form the more or less complete picture, that the student is to test the progress he has made in the acquisition of the different branches of his medical studies.

Unfortunately, however, the manual is too apt to be seized upon by the lazy student, as his sole text-book—as the ready road to the acquisition of knowledge as superficial as it is evanescent. D. F. C.

ART. XXVIII.—*Practical Observations on Aural Surgery, and the Nature and Treatment of Diseases of the Ear.* With Illustrations. By WILLIAM R. WILDE, F. R. C. S. I., Surgeon to St. Mark's Ophthalmic Hospital, &c. Philadelphia: Blanchard & Lea, 1853. 8vo. pp. 475.

THIS volume reached us at too late a period to afford an opportunity for a careful examination of it, and to enable us to designate its peculiar merits. In our next number we propose to give an extended notice of it. In the mean time we may state that the great attention which Mr. Wilde is known to have devoted to diseases of the ear, his extensive experience in this class of affections, and the marked ability displayed in the various papers he has from time to time published in the journals, in relation to them, afford a sufficient guarantee that his present work will be a valuable contribution to our literature, and that he has succeeded in the object he has proposed, viz. "to expose error, and establish truth; to lay down just principles for an accurate diagnosis of diseases of the ear; to rescue their treatment from empiricism, and found it upon the well-established laws of modern pathology, practical surgery, and reasonable therapeutics."

This work will, we are sure, commend itself to the favourable attention of the profession.

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Structure of Tissues.*—There is in *Virchow's Archiv*, v. 270, an interesting paper by Dr. F. Hoppe, on certain chemical researches into the anatomical structure of various tissues. These are based upon the fact that animal structures which can be exposed to the action of water boiling under a pressure of three atmospheres, for several hours, without being dissolved, are not of gelatinous character. In this way a mechanical analysis of the tissue can be made, the gelatinous part is dissolved away, and the cells are demonstrated, by their resistance to the action of the boiling water, to be perfectly distinct from the intercellular matter, to have non-gelatinous walls of their own, and thus to be in all cases more than mere cavities in the surrounding tissue.

Small portions of cartilage, inclosed in glass bulbs, were boiled under high pressure in a Papin's digester. The intercellular substance was dissolved, and the cells could be detected by the microscope, floating free and uninjured in the fluid. Elastic fibro-cartilage, treated in the same way, gave a like result; all was dissolved except the fibres and the cells, which were found free in the solution of chondrin; disproving Mulder's dicum, that "the cells of fibro-cartilage yield chondrin on being boiled."

Bone was next examined; the earthy matter having been removed by a weak acid, small fragments of the animal matter were boiled, as above described. All was dissolved except the cells, which were found, as in the other cases, in the fluid, with portions of the canaliculi still connected with them. Our author concludes that the corpuscles and canaliculi of bone are no mere hollows or canals in the tissues, but have independent walls of their own, containing no gelatinous matter, and distinguished from the surrounding bone substance, exactly as the cells of cartilage are from the seemingly structureless matter in which they are imbedded. Our readers cannot fail to be interested in this experiment, taken in connection with the facts respecting the structure of bone which we recorded in a former number. Dentine, submitted to the same ordeal, underwent changes precisely analogous to those observed in bone; and Hoppe concludes, respecting tooth substance, also, that the tubes and fibrillæ which it contains possess walls of their own, of a smooth, thin membrane, containing no chondrin. Other tissues consist of cells alone, without intervening matter; and, in general, the tissues of the vertebrata may be arranged in two classes: 1. Those which consist of cells and intercellular matter, as areolar tissue, cartilage, fibro-cartilage, bone, and tooth; 2. Those which consist of cells alone, as epithelium, muscle, nervous and elastic tissues. This division holds chemically, anatomically, and also physiologically; since the first class compose the supports of organs, the latter the organs themselves.—*Assoc. Med. Journ.* Aug. 5, 1853.

2. *Development of the Teeth.*—A very interesting paper on this subject has appeared in the third number of the *Journal of Microscopical Science*, p. 149, from the pen of Mr. T. H. Huxley. Our readers are doubtless aware that the dentine, or proper substance of the tooth, is usually supposed to be formed by ossification of the cells of the pre-existing pulp, and consequently by layers added *within;* while the enamel is considered to be superimposed on it *from without* by a secreting layer, the "enamel organ," folded over the crown of the tooth. This account Mr. Huxley contradicts; the main object of his paper being to prove that the dentine is formed, not by ossification of the pulp, but rather by a process of deposition in, or on its outer layer, and that the supposed "enamel organ" has no function such as that attributed to it, the enamel being separated from it by a membrane (the persistent capsule of Nasmyth) and formed, in some manner not yet explained, on the surface of the crown of the tooth. An analogue of this he finds in the dermic bones of the skate, where there is distinct enamel, and no "enamel organ" whatever; and he brings out the fact by actual observation of the teeth of man.

If a young tooth capsule be opened, it will always be found that a space filled with fluid exists between the inner surface of the capsule and the outer surface of the pulp. The two are perfectly free from all adherence to one another; the only substance between them, besides the fluid, being a more or less abundant whitish matter, which sometimes adheres to the one and sometimes to the other. If the tooth be very young, a structureless membrane may be traced over the whole surface of the pulp; and it is not at all difficult to trace this in perfect continuity on the inner surface of the walls of the capsule.

The whitish substance, just mentioned as lying in the closed sac formed by the membrane so reflected, is delicate, friable, composed of cells, and, in short, is plainly the altered epithelium of the reflected membrane; it is this layer of epithelium which has been dignified with the name of "enamel organ," and invested with the function of secreting or forming the enamel.

Mr. Huxley next proceeds to inquire into the relation of the dental tissues to the tooth-capsule.

If a very young tooth, say from a fœtus of the seventh month, be carefully examined, especially after the addition of acetic acid, under the microscope, the thin cap of tooth-substance may be seen to be everywhere covered by a very delicate membrane, evidently continuous with the reflected capsule described above; and the *enamel fibres* can be distinctly seen *under* this delicate membrane; making it of course obvious, that the so-called enamel organ, being *above* the membrane, can have no such function as that attributed to it. Between the dentine and enamel no trace of membrane can be found.

The next question examined into is that to which we have already alluded—the exact mode of formation of the tooth-substance from the tooth-pulp.

The dental substance, our author holds, is not formed by simple ossification of the cells of the pulp (Nasmyth), but is deposited within the pulp in definite masses, the gaps between which eventually constitute the dental fibres, *parenchymate materiam suppeditante* (Raschkow).

When the ossifying boundary of a tooth-pulp is examined, it is seen that where dentification has not begun, the membrane so often mentioned is in immediate contact with the substance of the pulp, which is composed of a homogeneous transparent base, in which closely arranged nuclei are imbedded. Passing towards the ossifying edge, we see in the profile view a clear, more strongly refracting layer, gradually increasing in thickness, which begins to separate the proper substance of the pulp from the investing membrane, and is the young dentine, as transparent as glass, and at first quite structureless in appearance. No trace of "nuclei" can be seen in it; the bodies which have been described as such being, according to Mr. Huxley, simply lacunæ, and being afterwards found to form the canals of the dentine. He "believes that these facts afford sufficient demonstration that the pulp is *not* converted directly into the dentine; and that the structure of the latter does not depend upon the calcification of pre-existing elements."

In a morphological point of view, the relations of the *cement* show it to be homologous with the enamel. In a very beautiful section of a human tooth

from Mr. Busk's cabinet, the upper portion of the cement exhibits in places a very distinct transverse striation, resembling its perfect enamel; and in the tooth of a young calf the transition of the one structure into the other was well shown. The enamel and the cement, therefore, according to Mr. Huxley, are formed on the surface of the dentine, not by the "enamel organ," but in some way which he does not explain. Is it not possible, that not the epithelium, but the very membrane itself, is the agent?

In conclusion: the tooth-pulp being a protrusion of the dermic tissue of the gum, and the capsule an involution of the same, the reflected membrane is the analogue of the basement-membrane of the mucous lining of the mouth, and the "enamel organ" merely its epithelium, inclosed in the sac formed by the involution of the capsule.

The teeth, therefore, are true dermic structures, and are analogous to the hairs.

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3. *Development of the Blood-globules.*—Moleschott[1] has lately been conducting a series of observations on the splenic and cardiac blood of frogs after excision of the liver. The first effect of excision of the liver is a striking diminution in the quantity of the blood, inducing a sort of chlorosis. The colourless corpuscles are much increased in relative quantity, the proportion in the cardiac blood being (average of many observations) 1 white to 2.24 coloured; while in healthy frogs it is 1 to 8. In the blood of the liver, the proportion was 1 to 5.88. The same diminution of the coloured corpuscles, after ablation of the liver, was observed also in the abdominal blood and in that of the "fat body." In the spleen, the quantity of the coloured corpuscles was found reduced by more than half, so that, in consequence of the smaller number (only about one-sixth) of coloured corpuscles naturally present, the quantity of colourless corpuscles under these circumstances exceeds that of the coloured.

From these experiments, it follows that the liver is an organ in which the conversion of colourless into coloured corpuscles goes on to a great extent.

Frogs deprived of the spleen show a slight increase in the relative proportion of the coloured to the colourless corpuscles. Frogs deprived of both liver and spleen present, in proportion to the colourless, four times fewer coloured corpuscles than in the natural state.

In the *conversion of colourless cells into coloured*, the author states that the nuclei separate into two or three smaller ones, and these into granules; the granules become coloured, and dissolve; and thus coloured cells without nuclei are produced. At the same time, the round form of the colourless is gradually converted into the elliptical one of the coloured. This change of form takes place sometimes before, sometimes after the cleavage of the nucleus.—*British and Foreign Medico-Chirurgical Review*, July, 1853, from *Müller's Archiv*, i. 73.

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4. *Structure and Function of the Spleen.*—There are still numerous opinions almost constantly being advanced on the structure and function of this complicated organ. Buk[2] supposes that the colourless corpuscles of the blood which are to be changed into the coloured ones, are formed in it. This takes place by the passage out of the twigs of arteries ramifying on the Malpighian vesicles of an organizable lymph, which thus gets into the lymphatics. (He believes the Malpighian corpuscles to communicate with the lymphatics.) Here the first developed elements of the blood, the colourless corpuscles, are formed; part being transferred to the lymphatic vessels, and part to the veins. Thus the venous blood contains an important component not found in the arterial.

Tigri,[3] in a paper reprinted from an Italian medical journal, and written in order to vindicate his claim to priority over Asson and Kölliker, in their researches on the function of the spleen, reasserts, as the results of his micro-

[1] Müller's Archiv, 1853, i. 73.

[2] Illust. Med. Zeitung, Munich, 1852, vol. ii. No. 8.

[3] Schiarimenta sulla struttura e sulla funzione della milza del Prof. A. Tigri. (Est. dalla Gazzetta Med. Ital. Tuscana, tom. iii. ser. 2.)

scopic and other investigations on the spleen of men and animals, the following conclusions:—

The spleen is an organ which nature has destined to preside over the material composition of the blood. It receives into its vessels blood loaded with solid matters for elimination; these are the used-up epithelial cells and red globules, which are assimilated in it, and reduced into new principles of nutriment.

1. The anatomical elements of the spleen are blood and lymphatic vessels, to which are united the Malpighian corpuscles, the fibrous structure, the microscopic web, and the splenic fluid.

2. That it is not credible that the vessels of the spleen (looking at their size as compared with that of the organ) are destined only for its nutrition.

3. This is confirmed by observing that in other organs in which the blood has to undergo a modification there exist two orders of afferent vessels, *i. e.* the pulmonary and bronchial arteries for the lung, the hepatic artery and portal vein, for the liver.

4. Similarly, these two orders of vessels must be recognized in the spleen: the first comprises the nutrient vessels; the second, those which carry into the venous system the blood loaded with eliminable materials.

5. The special conformation of the splenic venous canal of ruminants, visible from the point of their entrance into the organ, has reference not only to the form of the canal, but also to the structure of its walls.

6. To the form, which is cylindrical, but irregular from hollows and projections, to which he gives the name of splenic productions.

7. To the structure, inasmuch as the parietes of the veins are formed by the red substance of the organ, together with a most subtle and transparent membrane, which divides it from immediate contact with the blood.

8. This membrane, organized like that of the capillaries, performs the office of a filter, and gives passage to the red globules of the blood, which are rendered inactive as well as the epithelial bodies.

9. This structure, so visible in the large venous trunks of the spleen of ruminants, is verified also in that of the horse, pig, and lastly, in the human spleen.

10. The communication between the arteries and veins of the second category, by the intervention of a capillary system, is effected by channels so ample as to permit the easy passage of bodies as large as the one-third of a millimetre.

11. The spleen pulp otherwise is not a dense liquid, but an assemblage of fusiform nucleated cells, involuted or folded on themselves, isolated nuclei, and red blood-globules, which elements are contained in a most delicate areolar web.

12. The presence of the Malpighian bodies is undoubted.

13. The structure of the spleen presents no resemblance to the cavernous bodies.

14. The microscopic web, with its areolæ, is in direct communication with the venous cavity, by the porosities of the stratum limiting the isolated or confluent splenic productions.

15. The same web is in communication with the lymphatics.

16. The epithelial bodies!! detached from the walls of the vascular system, and mixed with the circulating blood, are brought by the artery into the splenic tissue, in which there is every reason to believe that they are arrested.

17. The same happens to the worn-out blood-globules.—*British and Foreign Medico-Chirurgical Review*, July, 1853.

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5. *Capillaries of the Liver.*—Mr. Rainey writes to the editor of the *Journal of Microscopical Science*, p. 231, as follows:—

"In the last part of Todd and Bowman's *Physiological Anatomy*, a doubt is expressed concerning the nature of the ultimate passages through which the blood circulates in the liver. Whether the smallest bloodvessels of this organ are true capillaries; that is, are possessed of a single tunic like other vessels of this description, or whether the blood passes along mere spaces or channels formed by the hepatic corpuscles, so as to be in actual contact with their cell-walls, is regarded by these authors as a question yet to be decided.

"Having at this time in my possession a portion of injected human liver, in which I have no difficulty in showing the smallest capillaries, and in demon-

strating their tunic, the following observations will, I hope, be considered worthy of a place in your valuable Journal; first, because any doubt proceeding from such high authorities cannot fail to unsettle a point of minute anatomy which the microscope has satisfactorily established; and secondly, because the supposed fact of mere blood-channels existing in the liver, whilst true capillaries are demonstrable in other glands, seems to depart too widely from a general law to have even the sanction of probability in its favour.

"The examination necessary to show the capillaries of the liver is best made on a very thin slice of injected liver, taken from a part where the injection begins to fail; but, before examining this section, it must have been submitted to a gentle current of water, in order that the biliary corpuscles may be entirely washed away from the meshes of those capillaries which project from the thinnest part of it.

"In respect to their structure, these capillaries differ but little from those of other parts. Their caliber in the liver I have always observed to be very unequal, arising most probably from the manner in which they are compressed by the corpuscles which lie in immediate contact with their walls, and fill up the areolæ produced by their numberless inosculations. Their average diameter is about 1-3000th part of an inch. Their tunic is remarkably thin and transparent. The meshes are generally circular or oval, and about 1-1000th of an inch in diameter.

"The difficulty of displaying the capillaries of the liver, I believe to arise from the close connection of the hepatic corpuscles with their walls (there being in this organ no visible basement-membrane), and the extreme fragility of the latter; so that the means employed to remove the corpuscles from the meshes of the capillaries will break away the vessels also. This, I think, will not be so likely to take place if the part have been kept a few days before being examined, and be treated in the manner above described."—*Assoc. Med Journ.* June 3, 1853.

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6. *Temperature of the Blood.*—The results of former investigators on the difference in temperature between arterial and venous blood, have shown that there is usually a difference of about .5° C. in favour of arterial blood, comparing generally the jugular and the carotid, or the opposite ventricles of the heart. A series of extensive and very accurate researches made by Liebig,[1] son of the renowned Munich Professor, have shown, on the contrary, that venous blood is warmer than arterial under all circumstances, the average of the maxima and minima being .07° to .19° C. The experiments, which were made on living or recently-killed animals, were conducted in the following way: A dog was killed, and a ligature tied tightly round the neck, to prevent the lungs from collapsing. In this way, as the pulsations of the heart lasted a short time longer, some of the blood would be arterialized by the air in the lungs, and some arterialized blood would therefore always be found in the left side of the heart. The thorax was then opened, by as small an opening as possible, the aorta tied at its bend, and the vena cava superior close to the auricle; then, the dog being raised, and the ligatures drawn upwards, in order to make the opening in the vessels at the highest point, thermometers were passed into the two ventricles down the artery and vein. After the introduction of the thermometers, cotton-wool was placed in the opening of the thorax, in order to prevent any real difference between the temperature of the blood occurring from the difference in the thickness of the two ventricles. In the experiments conducted on living animals, thermometers were introduced by the carotid artery and jugular vein into the heart.

The conclusions that may be drawn from these experiments may be divided into three heads:—

1. The difference of temperature between the two kinds of blood.
2. The temperature at different parts of the same system.
3. The changes of temperature at one and the same level of the arterial or venous system.

[1] Liebig, Georg, Ueber die Temperaturunterschiede des Venösen und arteriellen Blutes, Giessen, 1853.

1. As to the difference of temperature between the two kinds of blood. In the experiments on the recently-dead animal, the temperature of the blood in the right ventricle was found once higher, and twice equal to that of the left. The temperature of the blood in the ascending cava was found .72° C. higher than in the carotid. In the experiments on the living animal, in which the temperature was constant, that of the venous blood was found constantly higher than that of the arterial by .07° to .19° C. on an average of the minima and maxima.

2. As to the differences in temperature of the venous blood at different parts of the circulation. The temperature of the blood in the large vessels coming from the head and extremities, rises as we approach the vena cava inferior, in which the blood reaches its highest temperature. This change does not reach a high value for small distances in the vena cava superior, but is rapid in the auricle, where the mixture of abdominal blood is greater. A similar rise is observed in the iliac vein. The temperature of the venous blood of the extremities is far lower than that of the vena cava inferior, or the right heart. The differences in the arterial blood are far smaller; they are not even appreciable at less than 6 cn. from the heart.

3. As to the changes of temperature at one and the same level of the arterial or venous system. The temperature in the veins varies regularly in inspiration. This is observable in the larger venous trunks of the chest and belly, except the vena cava inferior. In the superior cava, the rise takes place at the end of inspiration; it reaches its highest point in the interval, falls at the end of expiration, and is at its lowest point after expiration.

Maximum.	Minimum.	Maximum.	Minimum.
Inspiration —	Expiration —	Inspiration —	Expiration — Inspiration.

The oscillations in regular breathing are from .07° to .10° C. These oscillations are thus explained. In inspiration, the pressure of the diaphragm and abdominal viscera causes an increased flow of blood from the vena cava inferior into the right ventricle, which overpowers the stream from the vena cava superior; while in expiration, the flow of blood occurs towards the vena cava inferior, and its exit is impeded. The exit of blood from the vena cava inferior is also impeded, but not to so great an extent. Now the blood of the inferior cava being warmer than that of the superior, it follows that the blood in the right ventricle will be found warmest just after inspiration. Their maxima and minima will be found at different periods of inspiration, in different parts of the circulation, according to the period at which the stream of blood reached them. —*British and Foreign Medico-Chirurgical Review*, July, 1853.

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7. *Observations on the State of the Blood and the Bloodvessels in Inflammation.* By T. Wharton Jones, F. R. S. (Proceedings of the Royal Medical and Chirurgical Society, June 7, 1853.)—The author, after alluding to the objections raised by some observers to the conclusions respecting the character of the inflammatory process in mammifera, from experiments upon cold-blooded animals, refers to his observations upon the pulsation of veins, as seen in the circulation of the wing of the bat, and published in the *Philosophical Transactions*. He affirms that there will be found similarity in the inflammatory process in the two classes of animals, and that with proper precautions we may accept the information afforded by microscopical examinations from both. He then describes at some length the effects produced upon the circulation by the complete division of the bloodvessels. An artery, on being cut across, becomes constricted upwards in the direction of its trunk, and downwards in the direction of its ultimate ramifications; and so far as this constriction extends the flow of blood in the vessel is arrested. In a minute or two, relaxation of the wall of the artery, and dilatation of its bore, are observed to take place, and then we find that in the upper part of the artery the flow of blood becomes re-established as far down as the first considerable branch proceeding from it above the place of section. Below the wound, a retrograde current is kept up in the cut artery, through the medium of an anastomosing vessel, but this retrograde stream passes

off in a direct channel by branches leading from the artery. The retrograde stream flows more or less sluggishly, and the blood is loaded with red corpuscles. The author has not found veins become constricted after section, like arteries. In the upper segment of a divided vein, there is no farther flow of blood up to the first considerable branch which joins the vessel above the wound. From the vein below the place of section, the blood which enters in a natural direction by one set of radicles flows out in a retrograde course by another set. Internal clots are formed by accumulation of blood within the cut ends of the artery. The effect on the circulation of the part to which the divided vessels lead is, the blood in the last arterial ramifications, in the capillaries, and in the venous radicles, flows tardily, and becomes loaded with red corpuscles, which aggregate together. In some of the vessels there takes place actual stagnation of the aggregated corpuscles. This effect is explained by the circuitous route which the blood has to follow through anastomosing branches to arrive at the last arterial ramifications; the blood-corpuscles are allowed to aggregate in consequence of diminished *vis à tergo*. The author believes that inflammatory redness may depend upon two causes—a stagnation of the blood, as commonly described, and also upon an increased rapidity of the flow through dilated arteries. He mentions the effect of the division of the ischiatic nerve in promoting the disappearance of inflammatory redness in the web of the frog's foot, by causing a yielding of the coats of the arteries, and an increase in their caliber. He believes that this depends upon the section of the filaments of the sympathetic nerve.—*Lancet*, June 25, 1853.

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8. *Phrenic Nerve.*—The following are Luschka's conclusions respecting this nerve:—

"1. The phrenic is not merely a motor nerve, but a mixed nerve, containing sensory filaments distributed to the pleura, pericardium, and the peritoneum, covering the diaphragm, and on the anterior wall of the belly. It is also distributed to the coronary and suspensory ligaments of the liver.

"2. It brings about a double interchange of fibres between the sympathetic and spinal nerves, since organic nerve-fibres go to it from the inferior and occasionally the middle cervical ganglion, and it gives, by its abdominal portion, fibres to the solar plexus.

"3. In the majority of cases, the phrenic arises but from one cervical nerve—the fourth.

"4. The diaphragmatic branches he traces to the tendinous centre, the inferior vena cava, the right auricle, and the liver.

"5. In its course over the pericardium it appears to be endangered in diseases of the pleura and lungs, especially tubercular. Hence, probably, some of the disturbances of respiration in these complaints."—*British and Foreign Medico-Chirurgical Review*, from *Schmidt's Jahrbuch*. iii. 1853.

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9. *On the Physiological Uses of the Ganglionic Nervous System.*—Dr. Davey read a paper on this subject before the Medical Society of London, the principal object of which was to prove the independency of the organic nervous system, and, what is more, the dependency of the integrity of the cerebro-spinal system, in common with all the organism, on it. To prove his position, Dr. Davey brought forward a variety of facts, more or less startling, and these, selected with much apparent care, seemed to tell much in favour of the physiological views insisted on. After some preliminary remarks, intended to show the unsatisfactory and contradictory opinions expressed by our most popular writers on medicine (physiology), viz. Wagner, Todd and Bowman, Carpenter, and others, concerning the ganglionic nervous system, he affirmed, on the authority of many good names, that the ganglion of the sympathetic nerve are those parts first formed in the fœtus, and that this same fact obtains equally, it was premised, through the whole animal kingdom. The early organism of birds was referred to in confirmation of that opinion, which assigns to the solar ganglion and its dependencies an existence anterior to any other part of the animal fabric. Especial reference was made to the two monstrosities recorded by Mr. Lawrence and Dr. Marshall Hall. The first of these it is known was born without a brain,

but with the spinal cord complete; but the second, still more wonderful, was born without either a brain or a spinal cord. Dr. Davey argued that if in the latter instance the functions of secretion, absorption, &c. were duly and efficiently executed or performed without any aid from a cerebro-spinal system, then was this latter in no instance either requisite or necessary in any way to the integrity of such functions in the animal economy. The ganglionic nervous system, said he, is perfect at birth, and its functions are also perfect; this is completely organized, whilst the brain is nothing more than a mere pulpy mass, without any kind of function or use to the individual in possession of the same; the one is in active and unceasing operation, the other is but a blank, doing nothing, useless; the ganglionic nervous system executes its function instinctively, whereas the brain, if not the spinal cord, requires time and experience, and direction, ere it perform its functions, either for good or for evil. Dr. Davey compared the monstrosity of Dr. M. Hall, organically considered, to the lower classes of animal life, the medusariæ; these, he said, performed functions of an instinctive and preservative character, executed those functions only which are strictly vital, such as secretion, absorption, nutrition, and so on; and therefore was it to be inferred, and most fairly and logically, that these same animals were possessed of a sympathetic nervous system and none other; the nervous organism of both the amyencephalous monster and the zoophyte was precisely similar, and their animal functions were on a par. As a farther illustration of the opinions advocated, he cited some rare examples of vivisections performed by himself with the view of testing anatomically the relative importance of the ganglionic and cerebro-spinal nervous centres. It was shown that in frogs and fish both the brain and spinal cord may be destroyed, and that nevertheless all the strictly vital functions will continue to be carried on as before. These animals, it was observed, offered peculiar facilities for the performance of such experiments, from the peculiarity of their respiratory apparatus; but, added the author, you have only to establish an artificial respiratory process or function in the higher order of animals, *i. e.* those who breathe normally with the aid of a complex set of nerves and muscles, for that which is purely natural, and then may the spinal cord and brain be destroyed with an almost equal impunity, so far as the said vital acts are concerned in them. The phenomena of sleep and disease were referred to as offering strong and corroborative evidence of the physiological opinions insisted on; and, in so far as the latter is concerned, Dr. Davey mentioned that the wards of any lunatic asylum would afford many instances of individuals who were reduced to a mere vegetative or organic existence by disorder affecting the brain and spinal cord; such patients, he said, lived oftentimes many years with their cerebro-spinal organism so disorganized as to be perfectly useless to them; unconscious; without feeling, emotion, or desire; void of thought; without hope, joy, or passion; lost to all normal sensation, or perhaps without feeling of any kind, and incapable of only the most imperfect motive power; enfeebled; paralytic; they nevertheless digest, secrete, absorb, in a word, carry on, year by year, the strictly vital functions, exactly as the malorganized fœtus does; exactly as the frog or fish, deprived of the brain and spinal cord, did; and exactly as the polypus is in the habit of doing. He then referred the Society to the experiments of Sir B. Brodie, performed many years since, for the purpose of proving that those nerves having a cerebro-spinal origin had no kind of influence on the reparation of injuries, and so on. Frogs, guinea-pigs, and dogs were the subjects of Sir B. Brodie's experiments; and it was found that the destruction even of the lumbar spinal cord, much less that of the crural and sciatic nerves, neither retarded nor impaired in any way the reparative process in the lower extremities; thus wounds and fractures made in the limbs so deprived of cerebro-spinal nervous influence healed and united as readily and completely as under all ordinary circumstances. Dr. Davey explains the facts recorded by Sir B. Brodie, by saying that the ganglionic nervous power was necessarily left intact; and this it was which caused the wounds to heal and the fractures to unite; and insisted on it, that although great and serious injuries to the brain and cord were borne with impunity, and for the reasons above stated, yet were such altogether impossible in so far as the solar ganglion and its dependencies were concerned. It was very truly

said, that a comparatively feeble blow on the epigastrium over the solar ganglion would destroy life; and that it was a very common thing among boys to suffer greatly from slight and accidental blows taking effect on the pit of the stomach; and the great danger of physical violence, even in a slight degree, to the epigastrium, was well known to the prize-fighting gentry, who forbade the combatants to strike below the sternum; and if, as the author asserts, the solar ganglion be the seat of life, the *locale* of the *impetum faciens* of old writers, the irritability, the motions without force, of Haller, then can we easily account for the facts just cited. Instinct and animal heat were treated of by Dr. Davey as specific functions of the sympathetic nervous system; but our space will not allow us to do more than thus allude to this part of his paper.—*Lancet*, June 25, 1853.

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10. *Additional Experiments on the Excitability of paralyzed and healthy Limbs by the Galvanic Current.* By R. B. Todd, M. D.—(Transactions of Royal Medical and Chirurgical Society.)—In the summer of 1847, Dr. Todd submitted to the Society the results of experiments tried with the view of testing the accuracy of Dr. M. Hall's dogma, that limbs paralyzed by lesion of the brain became more excitable than the healthy ones by the galvanic current, in consequence of an increased irritability of the paralyzed muscles. The present communication comprises the results of experiments to determine the difference on the influence of the current according to its direction, and also to ascertain whether any real difference of physiological effect exists when the galvanic trough, or the magneto-electric or electro-dynamic machine, is used. Thirteen healthy individuals were subjected to experiment, and with the following results:—

1. That the obvious physiological effect was produced only on completing, or on interrupting, the galvanic circuit.

2. That more vigorous contractions were excited on the completion than on the interruption of the circuit.

3. That the completion or the interruption of the direct current produced more vigorous contractions than the completion or interruption of the inverse current.

These experiments were made with a Cruikshank's battery, charged with very dilute sulphuric acid. The magneto-electric rotation instrument and the coil machine (electro-dynamic) were afterwards used, and it was found that the same effects precisely were produced, and the same variation in the intensity of the contractions, according as the current was direct or inverse. Fifteen cases of hemiplegic paralysis, caused by lesion of the brain, are afterwards detailed. The results of the galvanic experiments on these cases were as follows:—

1. That of the fifteen cases, in only three was there any approach to a greater excitability of the paralyzed than of the sound limb, and that in two of these it was manifested only under the influence of the inverse current.

2. That in three of the cases, both the coil machine and the battery were used, and with precisely the same results; and that, in one of the cases, the coil machine alone was used, and with a result which corresponded with those obtained in similar cases by the galvanic battery.

3. That in each of the three cases in which a greater excitability existed in the paralytic limbs, the paralyzing lesion in the brain was more or less of an irritative kind. In one case, the irritation was probably connected with an incipient process of cicatrization.

4. That in many of the experiments all degrees of galvanic power were used, and with no other difference than that of degree; the amount of physiological effect being exactly proportionate to the power of the galvanic stimulus. —*Med. Times and Gaz.* July 30, 1853.

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11. *Intermediate Nerve between the Portio Dura and Portio Mollis of the Seventh Pair.* (Communicated to the Association of the College of Physicians.) By John Gason, M. D.—Since the time that Wrisberg discovered the existence of an intermediary nerve between the portio dura and portio mollis of the seventh pair of cerebral nerves, there have existed between anatomists and physiologists idely different opinions as to the functions, distribution, and nature of that

nerve. Perhaps this difference of opinion may be owing chiefly to the want of sufficiently exact anatomical examination of this nerve; therefore, to put into a clearer light so important a subject, Dr. Malaguti commenced fresh investigations and observations on the brain of a calf, with the intention of arriving at, in consequence of the greater development of the parts, less uncertain and doubtful results. So great is their importance that they are given without abbreviation.

Malaguti having laid bare the thick fibrous sheath which was formed of the external layer of the dura mater which incloses the fascial as well as the auditory nerve; having cut and separated each of those nerves the one from the other, he was then enabled to observe some nervous filaments, which, as he says, owing to the reddish-gray colour with which they were furnished, presented the most lively contrast to the snowy whiteness of the nerves among which they were placed, and terminated in two distinct roots, one of which was found to be connected with the auditory nerve, the other with the facial by means of some slender branches, and as they extended as far as the free extremity of the seventh, where they were cut, so they appeared to be continued in a similar manner into the substance of the brain.

At first, says Malaguti, I was unwilling to believe what I saw, being doubtful whether these supposed roots, instead of belonging to the intermediary of Wrisberg, were not rather radical filaments of the seventh pair; but afterwards I was convinced that my first opinion was the true one, as, in addition to the different colour that they presented, I fully satisfied myself that, converging one to the other, they were lost in an elongated gangliform body, analogous to the geniculated ganglion that is met with in the human body. This peculiar reddish-gray colour, like the filaments above mentioned, is composed of a great number of the most delicate nervous fibres, intimately joined together by a swollen network rich in bloodvessels. Having laid bare the ganglion from the fibrous sheath that bound it up, together with the facial within the Fallopian aqueduct, it was found that the first was placed simply over the second, that in colour it was very different from the latter, and that, being curved, it formed a sort of network round the nerve alluded to, where it is reflected in order to enter the aqueduct. The ganglion in its superior extremity was found in immediate contact with the two roots above mentioned, under which, for the space of nearly half a line, the ganglion gave off a distinct branch, which, together with the auditory nerve, penetrated within the labyrinth, which having reached, it is probable that it, with the auditory nerve, is distributed over the membranous apparatus of the labyrinth. But what particularly riveted my attention (continued the illustrious anatomist) was to see above this singular nervous apparatus that, from the convexity of the ganglion, which we shall call the geniculated, and from the side of the same which looked towards the fifth pair of cerebral nerves, there issued a thick branch very analogous to the cranial vidian, which is seen in the human species, and which, without having any other connection with the facial nerve, issued from the Fallopian aqueduct, to be lost, after a short course, in a thick fibro-cartilaginous membrane, which almost deprived me of the hope of seeing the termination of it. My investigation was, however, crowned with success, for having overcome the difficulty, I was but a short time in tracing it into a ganglion of the great sympathetic, to which it directly joined itself without sending off by the way any branches to the adjacent parts. Concerning that ganglion of the great sympathetic, I must not neglect mentioning that it gave off anteriorly a branch to the orbits, in connection, if I mistake not, with the sixth pair of cerebral nerves, and another inferiorly, which appeared as the continuation of the cranial vidian running to the superior cervical ganglion along the great sympathetic. The geniculated ganglion, then, in its inferior extremity, is divided into three thick branches of the same reddish-gray colour, which were very apparent on the bend of the facial; but as they descended with this nerve through the aqueduct, they gradually separated, so as to form with the fibres of the communicating a very complicated network. Making an attentive examination, then, of the inferior extremity of the ganglion alluded to, Malaguti discovered a plexus of threads in intimate connection with the communicating nerve of the face, from which

plexus some branches were given off, which at different distances were lost in the facial, and one of which only he was able to trace distinctly down from the firm sheath as far as the auricular branch of the vagus, with which it formed a true anastomosis. Finally, between the auricular and the communicating, he saw directly extended a nervous filament, which he could not decide on whether it was given off from the auricular to the communicating, or *vice versa;* although, judging from the preceding anastomosis, and from the ashy colour which characterized it, he had reason to consider it to be one of a great many branches of the geniculated ganglion which united in descending with the fibres of the facial. He was enabled also to satisfy himself that the geniculated ganglion existing on the bend of the facial, sent out of the aqueduct two branches, one of which anastomosed with the common trunk formed by the union of four filaments, which arose from the superior cervical ganglion of the intercostal; whilst the other, which was more delicate, and followed a longer course, formed an anastomosis with the first branch that issued from the superior cervical ganglion, at a few lines distance from the same ganglion.

From these investigations and anatomical observations, strengthened by clever arguments, and by the most profound and extensive physiological and pathological knowledge, Malaguti draws the following conclusions:—

1. That the nervous apparatus, as seen in the calf between the portio dura and portio mollis of the seventh pair of nerves, having colour, structure, form, and distribution, altogether different from that which the collateral nerves offer, it follows, as a consequence, that it ought to be considered separate and distinct from these.

2. That as the intercostal nerves are in communication with the seventh pair, and the intermediary is in connection with the latter, and as the geniculated ganglion has not the characters of compound ganglions, and as it is in communication with the great sympathetic, it may lawfully be placed in the class of nerves pertaining to organic life.

3. That as the intermediary offers a plausible explanation of the sympathy that exists between the viscera of the thorax, as well as those of the abdomen, with the organ of hearing, and with the brain, and *vice versa*, on account of the connection which it has with the sympathetic and with the par vagum, it must therefore be considered as a branch from the intercostal continued into the brain.

4. Finally, as the nerve of Wrisberg cannot be considered, against the opinion of Morganti, as a nerve of sensation identical to the posterior roots of the spinal nerves, it may with more probability, be considered as a nerve of organic life, belonging directly to the most manifest centre of the nervous system.—*Dublin Med. Press*, June 15, 1853.

MATERIA MEDICA AND PHARMACY.

12. *Sugar of Milk as an Article of Food in Consumption and other Pulmonary Diseases.* By James Turnbull, M. D., Physician to the Liverpool Royal Infirmary.—Those who are familiar with Liebig's works are aware that he established, several years ago, the fact that all the various substances used as food belong to one of two classes—the azotized, or plastic, which form the tissues of the body, and replace the worn-out tissues; and the non-azotized, or combustive, which furnish food for the lungs, supporting respiration and animal heat. Now, it is a curious fact, which he also established, that, though the fibrin, albumen, and casein, which constitute the chief of the first or azotized class of alimentary substances, exist in vegetable as well as animal food, animals have not the power of forming in their own bodies any of those azotized alimentary principles. They are primarily derived from the vegetable kingdom; and the digestive organs of animals have no power of producing them, but merely of assimilating what has been already formed by plants, or previously drawn

from the vegetable kingdom by some other animal. These views met with considerable opposition when they were first advanced; but their correctness is now generally admitted, and there is no essential difference in the chemical composition of fibrine procured from vegetables and that obtained from the flesh or the blood of an animal, or between vegetable and animal albumen or casein.

Of the other class of alimentary substances—the non-azotized—the chief use of which is to supply food for respiration and the support of animal heat, the principal are starch, sugar, oil or fat, and alcoholic liquors. These unite with the oxygen absorbed at the lungs, and are the chief source of the carbonic acid and watery vapour given off by these organs. They are, in fact, burnt by a process of slow combustion, which is the great source of the high temperature of animals.

It appeared to me that, as this function of the lungs must necessarily be more or less impeded in all pulmonary diseases, and as cod-liver oil had been found so beneficial in that particular disease, consumption, advantage would be gained by selecting from this, the non-azotized or combustive class of alimentary substances, such of them as would have the greatest tendency to unite readily with the oxygen absorbed at the lungs; and thus, in the disabled condition of these organs, to facilitate the performance of their functions.

I was thus led to inquire which of the non-azotized or combustive class of alimentary articles are most readily digested, and have the greatest affinity for oxygen. Sugar of milk is an article belonging to this class of aliments, which possesses these properties in a high degree, and is deserving of more attention than it has yet received as an article of food. I shall therefore state a few facts respecting it, which seem to me sufficiently interesting to be worthy of being brought under the notice of the profession.

There are three principal varieties of sugar—cane sugar, milk sugar, and grape sugar. They are closely allied in composition, though they differ considerably in chemical properties. All kinds of milk contain sugar of milk; but it is worthy of notice that asses' milk, which has always had a greater reputation than any other kind, as an article of food in consumption and other pulmonary diseases, contains the largest proportion, relative to the caseous and oleaginous principles, of any kind of milk. Whey, which consists almost entirely of sugar of milk, has also been found a useful article of diet in consumptive cases.

When we inquire into the chemical properties of milk sugar, we also find that it has so strong an attraction for oxygen, that, when dissolved with an alkali, it has the power of reducing more or less completely some of the metallic oxides. It is readily absorbed into the blood, which, being an alkaline fluid containing oxide of iron, furnishes the necessary conditions for its oxygenation. Besides this, its composition is such, that it must be readily converted into carbonic acid and water. There is only one other point in relation to its fitness to supply material for respiration, which I shall at present notice. It is the fact, originally pointed out by Liebig, and now admitted by physiologists, that one of the great offices of the liver is the preparation of combustive material for the respiratory process. This is a point which has not been sufficiently kept in view by medical men; but it is one of great practical interest, when we consider that the function of the lungs and that of the liver are so intimately connected and mutually dependent, that derangement of the secreting function of the latter must necessarily interfere with the former, and may not improbably be one of the chief causes of a tubercular state of the blood. The liver prepares the combustive materials for respiration; and of this there are two sources, one being the worn-out tissues of the body, the hydrocarbonaceous part of which forms bile, and, being reabsorbed, is consumed at the lungs; the other is the saccharine and fatty matters of the food, which are consumed in a similar way. It would seem, however, that the liver has not only the power of preparing the latter, but also of forming saccharine at least, if not oleaginous matters, from the blood. A defect in this power may be one of the great causes of tubercular diseases; and if we can, by giving a ready-formed oil, which is stored up at certain times in the liver of the codfish, rectify to a

great extent any defect in its action, so far at least as the oleaginous material for respiration is concerned, there is good reason to expect that still more may be gained by giving, in a ready-formed state, the other combustive material, the saccharine.

The facts I have brought forward have led me to use sugar of milk in the treatment of consumption; and, as I have seen benefit from its use, I wish to recommend it as an article of food deserving of more attention in the treatment of this disease than it has yet received. I believe also that they embrace an important principle, applicable to the dietetic treatment of other diseases.—*Assoc. Med. Journ.* June 24, 1853.

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13. *Raw Meat and recent Blood as Therapeutic Agents.*—In the diarrhœa of young children, connected with anæmia, M. Trousseau prescribes raw meat, finely chopped and slightly salted. He attributes the medicinal properties of raw meat to the iron and manganese contained in the fresh blood. The *Presse Médicale Belge* says that in Belgium it is a common custom, in some diseases, to drink bullock's blood in the morning before breakfast, while still hot, in increasing doses. Persons suffering from hæmoptysis, and exhausted by hemorrhage, are said to rally rapidly by taking every morning half a pint of blood in the slaughter-house, before it cools. It is said that children take the blood readily, but that adults loathe it.—*Association Medical Journal*, June 17, 1853.

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14. *Transfusion of Blood.*[1]—In this memoir, Dr. Polli collects twenty-three cases in which the operation has been practised in the ordinary way, that is, with human blood. In five of these death happened, either because the operation was too late, or because death was about to happen from some independent and inevitable cause; in all the rest life was saved—in many, from the very jaws of death. In no one case did the operation give rise to any serious inconvenience. The majority of the cases were those of parturient females, reduced to death's door by flooding; the rest, those of persons suffering from other kinds of hemorrhage, induced upon the hemorrhagic diathesis.

Dr. Polli also enumerates some cases in which the *blood of animals* was successfully substituted for that of man. Four of these are on the authority of M. Denis, who wrote his *Lettres sur la Transfusion* at Paris in 1667. Another is taken from an Italian work by Dr. Manfred, of Lucca (*De Nova et Inaudita Medico-Chir. Operatione*, &c., Romæ, 1668). Another, by MM. Lower and King, from the *Gaz. Médicale de Paris*, p. 65, 1848. The particulars of the last two experiments are not given, and we are only told that the blood of a lamb was employed in the one, and that of a calf in the other, and that the result was successful. The particulars of M. Denis's experiments are as follows:—

Exp. 1. M. Denis took ten ounces of blood from the arm of a strong and healthy butcher, aged forty-five, and injected through the same opening twenty ounces of the arterial blood of a lamb, after which the butcher, without any alteration in his manners and feelings, proceeded to kill and dress the animal which had furnished the blood, and then went to the public house to dispose of the gratuity which had been given him by the operator. The next day, according to his own account, he felt in better health than usual, and he underwent the same operation with the same results.

Exp. 2. Nine ounces of the arterial blood of a lamb were injected into the arm of a youth, aged sixteen, who had suffered during two months from fever, and who, from this cause, and from having been bled twenty times, lay in a moribund state, when he immediately calmed and slept, and this rallying eventuated in complete recovery.

Exp. 3. A madman of eight years' standing, whose madness showed itself in attacks of complete restlessness and wakefulness of eight or ten months' duration, was treated by transfusion in the fourth month of such an attack. Ten ounces of blood were abstracted, and six ounces of the arterial blood of a calf injected in their stead, with much relief to the symptoms. Afterwards, a

[1] Recherches et Experiences sur la Transfusion du Sang; par le Dr. Polli. Archiv. Gén. de Méd. Oct. and Nov. 1852.

pound of the same blood was injected. The immediate result of the second tranfusion was vomiting, purging, and sweating. These ended in sound sleep, which brought about a favourable crisis, for from this time the patient continued to improve until he was quite well.

Exp. 4. The patient in this experiment was lethargic, convulsed, and almost pulseless, in consequence of a violent and protracted attack of vomiting and purging. M. Denis injected eight ounces of blood (of what animal is not stated, when the convulsions ceased, the pulse rose, the consciousness returned, the bystanders were recognized and spoken to, and some food was taken. This state continued for twenty-four hours. The transfusion was then repeated, but the vomiting and purging returned, and the patient sunk eleven hours afterwards. Serious intussusception of the small intestine was found after death.

The conclusion to which Dr. Polli arrives is that the operation of transfusion is simple, efficacious, and safe. He recommends it not only in cases of excessive hemorrhage under ordinary circumstances, but in cases where there is a strong hemorrhagic diathesis, as likely to produce a beneficial change in the crasis of the blood. He recommends it also in cases of extreme inanition, where there is not time to introduce food in the ordinary way, or strength to digest that food. He *suggests* it as a possible means of inducing a beneficial change in the constitution of the blood in chlorosis, rachitis, scrofula, and insanity; and he thinks that defibrinized aerated arterial blood might prove to be a powerful means of resuscitation in cases of asphyxia and other kinds of apparent death.—*Half Yearly Abstract*, vol. xvii.

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15. *Objections to the Use of Chloroform.* By Samuel Beecroft, Esq.—Since the use of chloroform has become so general, and so much is written in our periodicals in its praise, and so little against its use, I hope that I shall escape the charge of presumption in venturing on the following remarks.

I would first state my doubts of its use being beneficial *in any case*, when we know that its effect in lulling pain is produced at the expense of the blood being poisoned by the introduction of an excess of carbon; under which state there is great disposition to the production of local congestion. I appeal to common sense, if a patient in this condition, and undergoing an operation, is so likely to do well as one in whom it has been the care of the surgeon to keep the blood as healthy as possible.

For my part, I feel sure that convalescence cannot be so certain when chloroform is used as when the blood is free from its poisonous agency. But some will say that we have evidence to the contrary, in the fact of patients constantly making rapid recoveries when this anæsthetic agent has been used, and I cannot deny that such recoveries do take place. But we know that a great many would recover if they were rendered insensible with alcohol; but we should not like to risk operating under these circumstances; and we find a great analogy in the action of spirituous drinks and chloroform. Death is produced by large and rapidly administered doses of each; and we find in both instances, after death, the same congestion of vital organs.

I have frequently used chloroform, and I confess that I have never seen it the means of accelerating the convalescence, as is stated by some. How can rendering the blood impure cause a rapid recovery? The supposition is absurd. I have, however, often seen headache, sickness, etc., produced by it for some time after its use; and I have the impression that in some cases I have read, where death has occurred a few days after operating, it might in some measure have been owing to the chloroform.

The last two cases in which I used it were hydrophobia and dislocation of the humerus into the axilla of seven weeks' standing. In the case of hydrophobia, the patient was certainly quieted by it, but he died in less than twenty-four hours after the first active symptoms of the disease set in; and in all the cases I have read, where it has been used, this disease appears to have run its course very rapidly. In the case of dislocation, although we put the patient in great jeopardy, by the chloroform causing convulsions followed by stupor, under which the muscular system was completely powerless, we yet failed in the re-

duction; and if I were again to fail after bleeding, etc., in reducing a dislocation, I should have no hope of succeeding with chloroform. I give these two examples, as this agent has been so strongly recommended in the treatment of similar cases.

Having attended a good share of midwifery, and having been frequently called on by my medical friends to operate, I may be allowed to state that I have never seen one case of labour in which I should desire, or think it right, to use chloroform; even when instrumental or other aid was required. I would nearly as soon, in natural labour, see my patients tippling themselves into patience, as produce this condition by repeated small doses of chloroform.

Although, probably, my opinion is not worth much, as to its use in operative surgery, from the small number of capital operations I have had, yet I do not speak altogether without data; for I have occasionally operated, and assisted in operating, in cases of hernia, amputations (one at the shoulder joint), lithotomy, etc. I am sure it has been far more satisfactory to me to see patients, although suffering, in their senses, than to be annoyed by constant anxiety lest some untoward circumstance should occur from the chloroform. I also think that the recoveries were rendered more certain by not using it.

I observe that in the last number of the *Association Journal*, Dr. Snow writes, with his accustomed ability and moderation, "On the Administration of Chloroform during Parturition." He does not, however, conclusively prove to my mind that the supposed ill effects resulting from the use of chloroform, in the cases which he has been candid enough to bring forward, did not arise from its use. I cannot think that any one can be out of danger, although it may not be perceptible to us, who has inhaled two ounces and a half of the vapour of chloroform. Unfortunately, although, in commencing its administration, we may intend to give small doses only, yet, if the desired effect be not produced, we are apt to go on until sufficient has been used to become dangerous.

With respect to the action on the fœtus, of chloroform inhaled by the mother, most writers agree that the child is influenced by it. If this opinion be correct, another objection arises against its use; for assuredly we have no right to run the risk of permanently injuring the offspring, that we may relieve the temporary sufferings of the mother.—*Association Medical Journal*, June 17, 1853.

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16. *Tannate of Quinia and Tannate of Cinchonia.*—These vegetable alkaloids are at present attracting attention in France. They are described as being less unpleasantly bitter, and as equal or superior in therapeutic power to the common preparations of quinia and cinchonia. M. Barreswil communicated last year, to the Academy of Medicine in Paris, the processes by which he obtained these tannates; and BUCHNER, a German pharmacologist, describes an extremely simple method of manufacturing tannate of quinia, which is given as follows in the *Annals of Pharmacy*, for June, 1853, p. 169:—

"Cinchona bark, roughly powdered, is to be treated with six times its weight of common or household vinegar. After it has macerated during twenty-four hours, it is boiled, then decanted, and the residue is treated afresh with more vinegar. These several decoctions are to be mixed together, and filtered when perfectly cold; and to them is to be added an infusion of gall-nuts so long as a precipitate is formed. This precipitate is to be collected on a filter, to be then washed, and, lastly, to be carefully dried.

"Although the tannate of quinia prepared in this manner is not absolutely pure, and therefore requires to be given in larger doses than the sulphate of quinia; yet Buchner considered this preparation as particularly to be recommended, both on account of its cheapness in comparison with the more expensive drug, sulphate of quinia, and also from the simplicity of its manufacture, on account of the facility with which it may be prepared in almost all pharmaceutical establishments."—*Association Medical Journal*, June 17, 1853.

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17. *Hæmostatis.* By M. SEDILLOT.—The *Eau de Pagliari* consists of tinct. Benzoes ℥viii; alum ℔i; water ℔x. This preparation, which has a pale straw-colour, and is transparent, possesses an extraordinary power of coagulating blood.

Eau de Rabel, consisting of acid. sulphur. 100 parts; alcohol, 300 parts. The acid should be poured upon the alcohol slowly.

Baume de Compingt has not yet been analyzed, but appears to contain an empyreumatic oil.

Eau de Hepp is a modification of the Eau de Pagliari.—*Med. Times and Gaz.* Sept. 10, 1853.

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18. *Administration of Ether in Capsules.*—In the *Journal de Médecine et de Chirurgie Pratiques* for April, 1853, M. Clertan, of Dijon, states that he has for some time been accustomed to give ether in capsules in nervous affections. After several years of observation, by himself and others, he concludes that ether, when introduced in a known dose, pure, and without loss, into the stomach, has an effect which was totally unknown until the preparation of the ether pearls (*perles d'éther*). According to the old plan, the ether became partly volatilized before passing half-way down the œsophagus; and what arrived in the stomach was dissolved in water, and in a state favourable to rapid and sudden volatilization. M. Clertan has several times seen neuralgia, hemicrania, and gastralgia arrested instantaneously by from one to three of these capsules; while ether draughts, and ether in syrup, had been largely given without any effect.

The editor of the *Union Médicale* for April 12, in noticing M. Clertan's preparation, states that the ether capsules are already employed extensively by M. Trousseau, M. Pidoux, and other practitioners in Paris. The advantages of the capsules are:—

1. The ether can be administered in a known dose—each capsule containing four or five drops.

2. The capsules are inodorous; so that ether can, without their knowledge, be given to persons to whom its smell is repulsive.

3. The capsules permit neither evaporation nor decomposition of the ether; they may be kept a year at least, or indefinitely, according to M. Clertan.

4. The ether arrives in the stomach without irritating the membrane of the mouth or pharynx, or producing cough; and it produces its sedative action by its rapid absorption.—*Assoc. Med. Journ.* Sept. 2, 1853.

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19. *Mode of preparing the Concentrated Solution of Perchloride of Iron.*—In our last No., page 216, we noticed the method proposed by M. Pravaz, for coagulating the blood in aneurismal tumours, by means of a solution of perchloride of iron. The following is the method for preparing this solution as given by M. Burin de Buisson, pharmacien, of Lyons:—

Take of sulphate of iron of commerce (emerald colour), two pounds; water, six pounds; pure iron filings, the fifth part of a pound; sulphuric acid, half an ounce: put the whole into an enamelled cast-iron vessel, and leave the latter upon the sand-bath until gas is no longer given off; filter, add to the fluid half a pound of liquid hydrosulphuric acid, and allow to rest for twelve hours. Put, after that time, the solution upon the fire, boil for half an hour, and filter. To the filtered liquid add six ounces and a half of pure concentrated sulphuric acid; and place the mixture into an enamelled cast-iron vessel, which should be but half filled. Boil, and add, in small quantities, pure nitric acid, until it causes no longer the escape of red fumes. Remove the vessel from the fire, add to the fluid twenty-five or thirty times its weight of cold water, and the whole of the iron will be precipitated in the state of peroxide by the addition of a slight excess of ammonia. Wash the precipitate by decantation with pure water a great many times, and dry it in the air by spreading it in thin layers upon linen.

This dry and pulverized oxide is then calcined to redness in a large and shallow iron vessel, so that the temperature may not rise too high. This is the martial saffron of the shops, which is, in fact, pure peroxide of iron when prepared as above.

The perchloride of iron is then obtained in the following manner: Take of the peroxide of iron, resulting from the process just described, six ounces and a half; pure and white hydrochloric acid, two pounds; mix, and allow the action to go on without fire for five or six hours; then put the vessel on a water-bath,

and boil until the almost complete solution of the oxide is obtained; this should be done in a porcelain capsule, weighed beforehand. The liquid is decanted to separate the undissolved oxide, and the former is carefully evaporated upon the water-bath, constantly stirring, to the consistence of thick syrup, which is then weighed. Half this weight of distilled water is then added, the heat is kept up for a few moments, and the whole is thrown on the filter. The capsule and the filter should now be washed with a quantity of water equal to that used in the last place, and to the first fluid obtained, as much of the second is added, to get a mixture of the density of from 43.5 to 44 degrees.

By proceeding in this manner a very limpid fluid is obtained, with a slight acid reaction, but perfectly pure, having reached the maximum of saturation, and always identical. It may be kept without any of the salt being thrown down, provided the bottle be well stopped; the colour is dark-brown when the liquid is looked at in full, and of a greenish-gold colour when held to the light, or seen in a thin stratum. Five or six drops of this fluid, mixed with the white of an egg diluted with six drachms of water, are sufficient to coagulate the whole into a mass in the space of fifteen seconds. This mass firmly adheres to the bottom of the glass when the latter is turned up, and takes a pretty long time before it slowly drops, when the watery parts begin to run off, as the serum separates from coagulated blood.

At the meeting of the Surgical Society of Paris, held May 4, 1853, M. Debout presented the two carotids of a horse, into which perchloride of iron had been injected. In one of these vessels, for the distance of two inches, the artery being held by the fingers above and below, only six drops of the perchloride had been thrown. The clot formed had, however, been redissolved by the current of blood, and carried into the torrent of the circulation. The lining membrane of this vessel was healthy, except a small spot where an abscess was about to form. In the other carotid, fifteen drops of the perchloride had been injected for two inches and a half of its length, the upper and lower part of this length of artery being also compressed by the fingers. This vessel remained plugged all the time the animal lived. On a *post-mortem* examination, the whole length of the clot was found adherent to the parietes of the artery, the lining membrane being the seat of a suppurative inflammation. The vessel was quite obliterated, both above and below, in consequence of adhesive inflammation.

In a subsequent meeting, M. Debout gave a minute description both of the experiment and of the *post-mortem* appearances, and concluded that M. Pravaz, the discoverer of this property of the perchloride, was right in advising injections of very small doses. M. Debout very properly added that compression of the artery above the sac (as proposed and carried out by Dr. Bellingham, of Dublin) should be resorted to as an adjuvant of the injection, as there is a tendency in the blood remaining free in the artery to break down the clot formed by the perchloride. The author of the paper mentioned a case of aneurism at the bend of the elbow, following venesection, in the sac of which coagulation was obtained by a continuous galvanic current; compression of the vessel was neglected, and a week after the formation of the clot the latter was destroyed and washed away by the force of the arterial circulation.—*Lancet*, June 18, 1853.

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20. *Ferruginous Collodion.*—Having observed the utility of the salts of iron in erysipelas, M. Aran, to facilitate their application, combined them with collodion, forming a preparation which united the compressive and astringent effects. It consists of equal parts of collodion and Bestuchef's tincture (ethereal tincture of perchloride of iron). Spread on the skin, it forms a somewhat thinner pellicle than ordinary collodion, but it is much more supple and resisting, so that the limb can be moved in any direction without the cracking which takes place when collodion alone is used. Its adhesion is also more prolonged. —*Brit. and For. Med.-Chir. Rev.* July, 1853, from *Bull. de Thérapeutique*, t. xliv.

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21. *Trisnitrate of Bismuth adulterated with Arsenic.*—This medicine, so valuable in many forms of dyspepsia and diarrhœa, is often so carelessly prepared as to contain a quantity of arsenic more than sufficient to interfere with its therapeutic action, and to produce most unpleasant consequences. The *Annals*

of Pharmacy (January, p. 23) quotes the following remarks of M. Cornut, who has followed up the researches of M. Lassaigne: "The bismuth commonly employed in the preparation of the trisnitrate of bismuth, contains a notable quantity of arsenic, and, to obtain a pure product, it is indispensable that the metal should be submitted to the process of roasting; and yet the manufacturers frequently neglect to perform this operation. For this reason, he thinks that the pharmaceutist should never dispense this substance without having first tested it, and especially when it is prescribed in large doses. He gives a process, at once simple and easy, for detecting arsenic. Moisten half a drachm of the trisnitrate of bismuth with a sufficient quantity of *pure* sulphuric acid, evaporate to dryness in a small porcelain capsule, wash the residue with a little distilled water, filter, and put into a Marsh's apparatus. A very simple one may be constructed, by passing a tube, drawn out to a point at one end, through the cork of a four or five ounce bottle. Care must be taken to use materials of absolute purity, and not to apply the light too soon, or an explosion may take place."—*Association Medical Journal*, June 17, 1853.

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

22. *On Smallpox and Vaccination; Analytical Examination of all the Cases admitted, during Sixteen Years, at the Smallpox and Vaccination Hospital, London; with a View to illustrate the Pathology of Smallpox, and the Protective Influence of Vaccination in Degrees varying according as the Vaccination has been perfectly or imperfectly performed.* By J. F. Marson, Resident-Surgeon to the Smallpox and Vaccination Hospital, London.—During the period comprised within this analysis, smallpox had been epidemic four times—in 1838, 1844, 1848, 1851; and rather more than half of the patients admitted into the hospital had been previously vaccinated. Much anxiety about the degree of security afforded by vaccination had begun to be felt, and the author thought the profession would be interested, and much useful information perhaps might be elicited, by classifying and arranging the patients admitted during the abovenamed period. The analysis referred principally to the following points:—

I. Natural smallpox.
II. Smallpox after smallpox.
  a. After natural smallpox.
  b. After inoculation.
III. Smallpox after vaccination.
  a. Number of cicatrices.
  b. Character of cicatrices.
  c. Vaccinated, but without cicatrices.
IV. Febrile eruptive diseases mistaken for smallpox.

A remarkable difference was observed between the vaccinated and unvaccinated patients, and also between the vaccinated cases themselves—some patients having the smallpox in a mild form, wholly devoid of danger, whilst others had it in great severity, scarcely if at all lessened by the previous vaccination. Under these circumstances the author thought that the causes of this remarkable difference might be sought for among the antecedents in respect to the vaccination of each individual admitted, with a view to explain the extreme mildness of some cases—the danger, unmitigated course, and even death of others. Smallpox in the unprotected remains to this day as virulent as it ever was. Vaccination, when performed in infancy, affords almost complete security against the fatality of smallpox up to the period of puberty; and the general experience of the Smallpox Hospital shows that smallpox did not usually occur after vaccination until several years had elapsed. The most trustworthy

evidence of the perfection of vaccination was to be obtained from the cicatrices, and this evidence he would be able to show was a very good guide to the general amount of protection conferred by vaccination.

The analytical series consisted of six tables. The first table showed the number of patients admitted at the hospital in each year, distinguishing males from females, whether vaccinated or otherwise, and gave the outline of the disease under which each was suffering; it included 185 cases of febrile diseases, principally eruptive but not variolous, and it furnished the result of the whole, with the rate per cent. of the mortality. The second table gave an analysis of all the cases of smallpox, 5,797, classed under nine different headings, the form of the disease in each case, and the result, with the rate per cent. of mortality under each division. He there gave the ages of the unprotected patients, and the rate per cent. of mortality calculated at different periods of life, for every five years up to thirty, and even ten years afterwards. The fourth table exhibited, separately, the leading particulars of 3,094 cases of smallpox after vaccination, showing from a careful examination of each patient, the number and character of the vaccine cicatrices, the form of the variolous disease and the result, with the rate per cent. of the mortality from smallpox after deducting the cases of superadded disease. It also showed the rate of mortality from smallpox in patients having one vaccine cicatrix, particularizing whether good or indifferent, and the average. The fifth table showed, in quinquennial periods, the ages of the vaccinated patients when attacked by smallpox, when they were vaccinated, and the rate of mortality. The sixth table stated, in periods of five years, the ages of the patients at the time they were vaccinated, who had subsequently been admitted with smallpox into the Smallpox Hospital. Observations on the results accompanied each table; and in relation to Table IV., it appeared that 3,094 patients with smallpox, reported themselves to have been vaccinated at some period of their lives. 1,357 had one vaccine cicatrix, and of these four and a quarter per cent. died with a good cicatrix, and twelve per cent. with an indifferent cicatrix; mean, seven and a half per cent. 888 had two cicatrices; two and a half per cent. died with good cicatrices, seven and a quarter with indifferent cicatrices; mean mortality, four per cent. and a fraction. 274 patients had three cicatrices; average mortality, one and three-quarters. 268 patients had four cicatrices; and there died with good cicatrices under one per cent.; with indifferent cicatrices, none, the average being only three-fourths of one per cent. The author described a good vaccine cicatrix as distinct, foveated, dotted or indented, in some instances radiated, and having a well or tolerably well-defined edge. An indifferent cicatrix as indistinct, smooth, without indentation, and with an irregular and well-defined edge. The author's opportunities of examining, with regard to previous vaccination, the foreigners admitted with smallpox at the hospital, and comparing them with each other, and with the same class of persons in this country, had led him to the conclusion that vaccination was performed in the best manner generally by the Danes, Swedes, Norwegians, and Germans, judging them by the standard shown in Table IV., to afford the most efficient security. Then came the Italians; and from the few he had seen, the Spaniards; then the Scotch; then the Irish, and, lastly, the English and French. He was most anxious to draw the attention of his professional brethren to the above fact. There must exist some grave and lamentable evils (more especially affecting the humbler classes) connected with the circumstances under which vaccination in country districts was performed. The details recorded in this paper should urge our provincial brethren, whose position and ability gave them influence, to lend their aid to trace the evil to its root; for there could be no justifiable reason why the rural inhabitants of England and Wales should be far less well vaccinated than were the rural inhabitants of Denmark, Sweden, and Prussia. The mortality, severe as it was between the indifferently and the well vaccinated, was not the only evil result to be regretted of bad vaccination. Proportionate to the mortality was the severity of the disease, and to those who escaped death there was damaged health, disfigurement for life perhaps, and the discredit brought on vaccination, which was in no degree due to it intrinsically, but was owing solely to the want of proper knowledge of the subject, and of the necessary care with which the

operation should be performed. Great judgment and caution should be exercised in the selection of vaccine lymph, for in this lay one of the principal causes of failure in vaccination. Lymph for use was in its best state on the seventh day of the progress of the vesicle, the day week from the vaccination; and the author described the character of the vesicle and the indications of the stage when it was most favourable for the collection of the lymph, and some very valuable and instructive observations followed on the mode of conveying lymph, the mode of vaccinating, the mode of preserving lymph, and on revaccination.

The author's conclusions from the foregoing facts and statements were:—

1. That natural smallpox destroyed about one-third of all whom it attacked.

2. That smallpox after smallpox was of comparatively rare occurrence; that a second attack of natural smallpox was rare, but not often fatal, and that protection seemed to be the law. That after inoculated smallpox an attack of smallpox had more frequently led to fatal results; but there is reason to presume that the virus used for inoculation, like a great deal of the lymph used at the present day for vaccination, was often taken at too advanced a period of the disease, and thus did not afford the full measure of protection it was capable of affording if taken at a proper time.

3. That vaccination performed in infancy afforded almost complete protection against the fatality of smallpox to the period of puberty; that a variety of circumstances conspired to make it almost impossible to ascertain exactly in what proportion to the vaccinated, cases of smallpox subsequently occurred, or might occur, if all persons lived to an advanced age.

4. That as a matter of safety it would be well for all persons who were vaccinated in infancy to be revaccinated at puberty; this measure being more especially requisite for those who were either indifferently or doubtfully vaccinated in infancy, and still more necessary for those who, though vaccinated, had no cicatrix remaining. Finally, as a matter of precaution, it would be desirable that all persons should be revaccinated on smallpox existing in the house where they were residing—a precaution, however, that will cease to be necessary to advise when all persons have the benefit of proper and efficient vaccination.

Dr. Copland remarked that it would be interesting if any member could give an account of the causes and effects of the smallpox epidemic in Jamaica, where it had been most destructive.

Mr. Streeter would throw out one suggestion, and that was, the necessity of attending to the health of the skin before vaccination was performed. He believed that the exhausted state of the skin in tropical climates was one cause of the imperfect vaccination which obtained in them. With respect to the unsatisfactory state of vaccination in the country districts, he might mention that, about thirty years ago, in the practice with which he was connected, out of more than a hundred children who had been vaccinated, not one-half returned to show the arm and the effects of the operation. He might observe here, that he had only seen one fatal case of smallpox after vaccination, and this was on the fifth day. He alluded to one source of danger in cases of smallpox—namely, a profuse flow of the catamenia which occasionally occurred in the secondary fever.

Dr. Webster considered the paper just read as of great value, whether in respect of the numerous facts it contained or the deductions enunciated by the author. Besides which, the various tables compiled would enable others farther to investigate the question, and so disabuse the public regarding some fallacies recently disseminated. He (Dr. Webster) entirely concurred with the opinion stated, respecting the great fatality of smallpox among young people, compared with those in more advanced life. For instance, during 1847, when upwards of 4,200 persons died by variola throughout England and Wales, more than three-fourths were under five years of age—the sexes being equally divided, while very few had passed their forty-fifth year. Again, the fact mentioned by Mr. Marson, that death very rarely occurred in cases where the individual had been properly vaccinated in three or four places at the same time, was likewise most important, and showed if the system was once properly

imbued with true vaccine virus, little danger of subsequent smallpox need be apprehended. In his (Dr. Webster's) opinion, many of the deaths reported from variola, after cowpox, occurred where the party never had been correctly vaccinated, especially throughout rural districts and country towns; in which localities numbers even remain altogether unprotected, owing to the prejudices frequently prevailing in ignorant minds against vaccination, who obstinately object, it is reported, to the operation, "as an impious attempt to arrest the will of the Almighty." The Society's time being very limited, as announced from the chair, prevented any allusion to several points adverted to by the author; nevertheless, before sitting down, Dr. Webster remarked, that the statements now brought forward more than ever confirmed the protective efficacy of cowpox, when vaccination was carefully and judiciously performed.—*Proceedings of the Royal Med.-Chirurgical Soc.*

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23. *Yellow Fever, and its Treatment with Turpentine.* By JAMES LAIRD, Esq., Surgeon R. N.—In connection with this very important subject, deeply impressed as I am with the truth of this hypothesis (alteration of the blood, as the essential cause of idiopathic fevers), but without dwelling on the nature of malaria poison, with its various climatorial modifications in exciting fevers, and other endemic and epidemic diseases, I beg respectfully to submit to you the following remarks on a mode of treatment, which having been adopted here (R. N. Hospital, Bermuda) during the epidemic fever of 1843, has since always appeared to me rational and perfectly consistent with the character of that disease as it then prevailed, and also with the description of tropical remittent fevers in general. I allude to the therapeutical use of the spirit of turpentine; but as details of the treatment, and full accounts of that fever were then sent into office, it would now be supererogatory for me to enter into particulars. I am glad, however, to have the opportunity, with all due deference to those who may entertain a different opinion, to express my humble testimony to the beneficial effects of this truly valuable remedy, and also my regret that it has not yet met with that attention which I conscientiously believe it deserves. To Dr. Gilbert King, who was then in charge of this establishment, is justly and entirely due the credit, so far at least as I can ascertain, of having first used it in small doses as a regular mode of treatment in bilious remittent fever; and it is to be regretted that an officer of his experience and high rank in the service has not ere this made it known to the profession at large; but his silence on the subject has no doubt arisen from the limited opportunity he has since then had of farther testing its good effects. From the ample opportunities I had of studying the nature of the disease during my services here in 1843, and from the numerous histories with which I have made myself familiar, not only concerning the previous epidemics of this colony, but those throughout the West Indies generally, I do not think that bilious remittent fever, in the general sense of the term, can be considered as a disease of the inflammatory diathesis, but rather primarily one of the blood itself, caused by the external morbific poison, and that organic lesions result merely as a secondary effect or complication of this condition. On this ground, therefore, as the basis of the primary morbid action or pyrexia, you have also concomitant local affections to account for the regular series of phenomena observed in severe yellow fever, as also in the action of septic poisons, when taken into the system. In many of our fatal cases of black vomit with jaundiced skin, indubitable proofs of inflammation within the cranium, it must be acknowledged, were observed, but the head symptoms were seldom characterized by that violence so generally attendant on common inflammation in this part; and in nearly all the cases where coagulable lymph existed (sometimes gluing the membranes together) the brain itself was deeply congested with dark blood.

In the majority, however, of the cases dark venous congestion of the brain itself was only found, with serous effusion under the membranes, in the ventricles, and at the base of the skull. I have also particularly to remark that in thirty-seven autopsies, which I performed with as much care as my time on account of other arduous duties then would permit, eighteen only are recorded as showing organic lesions of the intestinal canal, and eight are reported as being

quite healthy-looking. How difficult, therefore, it is to reconcile these facts with the intestinal localization of essential fevers as maintained by the French, or inflammation within the cranium by some of our own pathologists? In no case of this number of dissections is the liver ever recorded as presenting the usual products of simple inflammation, although in thirty-two cases it was found yellow, friable, congested, or otherwise abnormal; and in the chest recent adhesions of the pleura were only observed in three instances. That there is something else, besides the primary inflammatory action of certain organs, to account for the phenomena of fatal fevers, the following analysis of the remaining principal *post-mortem* appearance will also show. In nearly all the cases the subjects were in a state of *embonpoint*, and in eight only the skin was recorded as not tinged yellow, from the presence of that tinge being so constantly noticed. In every case, without a single exception, the mucous lining of the stomach was more or less affected, being either hyperæmiated and discoloured, or softened, or eroded, and ulcerated. In eighteen subjects it contained black vomit, which in seven instances was also found, although more of a sanguineous character, in the intestines. In respect to the liver, five were recorded as natural; in fourteen the gall-bladder contained dark-coloured inspissated bile. Having no microscope, the structure of the kidneys could not be properly examined; but on two occasions they are reported as being enlarged and ecchymosed. The urinary bladder in eleven instances was contracted and quite empty, and in two contracted and containing bloody serous-looking fluid. Lastly, in twenty-two cases the lungs were found either engorged or congested with dark blood, but in nearly every instance otherwise healthy. I also remember distinctly that the blood during these examinations was generally observed to be fluid and dark-coloured. We had, likewise, numerous unequivocal proofs, during the epidemic, that the blood was in a dissolved or diseased condition, as shown by passive hemorrhage from the nose, mouth, and bowels, and occasionally uncontrollable oozing of dark blood from leech-bites, and from scarifications after cupping. That the external cause of the disease existed here I have every reason to believe, both from the extensive sources of malaria in this small colony, and from the peculiar concomitant condition of the weather, so commonly observed during our epidemic seasons; but whether this morbific cause so generated is imbibed into the system by the lungs, and affects the vascular before the nervous system, physiology has yet to determine. At any rate, it appears natural to conclude that the blood, after its primary impregnation, or rather at the commencement of the attack, becomes afterwards farther contaminated by the non-elimination of the different excretions, as is known to take place in certain forms of jaundice, in milk fever, and disease of the kidneys.

With this view, therefore, in regard to the pathology of yellow fever, and there is good reason to believe also of cholera, supported as it is by the analogy of the action of certain poisons on the system, I will now endeavour to prove the consistency and reasonableness of the turpentine mode of cure. During the epidemic, it was first prescribed by Dr. King, in five very bad cases of this disease, with the view solely, I believe, of restraining passive hemorrhage, when its peculiar salutary influence was so strikingly observed. This happened on the 27th of August, about a month after the fever had broken out; a revulsive plan of treatment, including general and local bleeding, to a large extent, having up to this period been practised with very unsatisfactory results. After these experiments on the five cases alluded to, all of whom remarkably recovered (and two were reported as having had black vomit), the turpentine was afterwards given in every case and in every stage of the disease, with what success documents then sent into office will show. When I joined the hospital, on the 19th of September, the epidemic may be said to have been at its height, and there were then 103 cases of fever under treatment. The general mode pursued was a moderate bleeding at the commencement (from twelve to twenty ounces), followed by cupping or leeching, if it seemed necessary.

If the patient had received no medicine prior to admission, the prima viæ were cleared out by a purgative dose of calomel or blue pill, along with solution of Epsom salts, and the turpentine then given in doses of 20 minims in a little

camphorated water, three times a day. In consequence of strangury, it was occasionally administered in combination with sweet spirits of nitre; but this troublesome symptom was happily of but rare occurrence, and then generally consequent on the application of blisters. Small doses of tincture of opium, and also castor-oil, were occasionally combined with it, in cases attended with frequent bloody and otherwise vitiated dejections, or in an opposite state of the bowels. The auxiliary treatment comprised sinapisms and blisters to the epigastrium, emollient enemata, and, during the stage of debility, wine negus, beef-tea, &c., and cinchona injections. The principal remedy being therefore the turpentine, since in the generality of the cases nothing else was given, I consider it, without any prejudice whatever, as a remedy in bilious remittent fever, not only perfectly consistent with, but particularly indicated by, the symptoms during life, and also the appearances after death, for the following reasons: First, the hemorrhagic character of the disease, depending doubtless on some change either in the chemical or vital properties of the circulating fluid; secondly, from the speedy embarrassment of the different excretory functions, particularly that of the kidneys, a diminished or suppressed excretion of urine having been particularly observed here as the most unfavourable symptom, and proved by the frequently contracted and empty condition of the bladder in fatal cases. As regards the first proposition, since this medicine is universally acknowledged as producing certain styptic and other salutary effects, melæna and ordinary passive hemorrhage, is it not reasonable to infer that it will be equally effectual in fevers, not recognizing inflammation as their proximate cause, and attended with a somewhat similar pathological condition? In regard to the second proposition, its well-known physiological influence on the renal and cutaneous vessels proved it to be, as a diuretic and sudorific, the very remedy which nature points out, in the means she herself adopts in the spontaneous cure of malignant fever. Besides these long and well-known properties, and also its acknowledged action on the nervous system,[1] I believe that turpentine possesses antiseptic or antiscorbutic qualities, as I have in several instances observed in scurvy, and particularly in scorbutic ulcers of the leg, indicated by their florid, healthy appearance, after a few doses of this medicine. That it is not in the doses above mentioned a stimulant, but, on the contrary, an indirect sedative, and therefore not counter-indicated in the first stage of yellow fever, our experience here most satisfactorily proved in hundreds of cases, as it has also since done in the treatment of dysentery. Unprejudiced, as I hope I am, and being anxious to bring this really valuable remedy more into notice by an honest appeal to plain ascertained facts, I beg leave respectfully to state, in the most earnest and unqualified manner, that instead of exciting the circulation, it quieted it, and allayed the urgency of the primary pyrexia by quickly (and in some cases almost immediately) restoring the pent-up secretions. The moderate bleeding, which was generally practised at the commencement, and frequently found essentially necessary to divert local determinations, no doubt materially assisted it in its action on the skin and kidneys, and on this account must be considered as a very important step in this mode of treatment.

Turpentine is, therefore, a mere simple, innocuous remedy, which, besides its sedative, styptic, and antiseptic properties, possesses also the peculiar power, in its action on the secretions and excretions generally, of re-establishing and keeping open the two great natural drains of the system, viz., those by the skin and kidneys, the functions of which, we all know, are amongst the first to be impaired or impeded on an attack of fever. That it claims attention from its having the advantage over specific medicines in this disease, such as quinia, calomel and quinia, and bebeerine (mercury being now considered not a specific, of which we had numerous proofs), is sufficiently obvious, from the nature of its action being readily explained, and from its use being equally beneficial in the last as in the first stage of the disease; I mean, when black vomit, bloody dejections, and low delirium have set in; and, as a testimony to its good effects,

[1] See Dr. Graves's Clinical Medicine, p. 126.

we had several recoveries from black vomit, attributable entirely to its influence.[1]

Viewing, therefore, the pathology of yellow fever as being primarily connected with a morbid alteration of the blood, and admitting the analogy between its phenomena and the action of a septic poison on the system, borne out, as their identity is, by the rapidity of the morbid action, the salutary efforts of nature, and the speedy convalescence, what better remedy, I beg respectfully to ask, do you require than this, which, like ammunition in a besieged citadel, supplies the means of defence, till the poison, like the enemy, is worn out and overcome?

In conclusion, I have to observe that during last winter I had an opportunity of trying this remedy in a very severe case of typhus fever, as did also a friend here, in eight other cases, with excellent effect, given in the following formula: spirit of turpentine, spirit of nitric ether, of each three drachms; compound tincture of lavender, two drachms; camphor mixture, four drachms. Of this mixture (well shaken up) a teaspoonful was given in a wineglassful of water every four hours. I was led to prescribe the turpentine in this form, to save the patient I attended, who was very poor, the expense of a larger mixture, and combined it with the nitric ether, to guard against strangury, which I was afraid would be easily excited in this climate. The other ingredients appear to answer tolerably well in disguising the turpentine taste and smell; but the inodorated is much preferable to the common turpentine. In all these cases its beneficial effects were equally well marked as in the continued and remitting fevers of Bermuda; and, I have no doubt, should any of your readers feel disposed to try this mode of treatment in the typhoid fevers of this country, with an unprejudiced mind and an observant eye, the results will prove the truth of these remarks.—*Lancet*, Aug. 27, 1853.

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24. *Yellow Fever, as it appeared in the Island of Antigua in* 1835, 1839, *and* 1842.—Dr. Thomas Nicholson presented to the Epidemiological Society an interesting paper on this subject.

The author commenced by stating that he had been thirteen years on the island of Antigua before he had an opportunity of witnessing a single case of the disease known to the English and Spanish colonists, on both sides of the Atlantic, for nearly a century, and described by writers under the terms "yellow fever," "bulam fever," "vomito prieto," &c., although severe and fatal cases of bilious remittent had been prevalent every year in the malarious districts,

[1] *Statistics of Mortality.*—1. Showing the comparative success of different modes of treatment in 164 cases of fever, as they are entered in the books of the Royal Naval Hospital, Bermuda, from the commencement of the epidemic; and the same number of cases, taken in the same order, from the 27th of August, 1843, when the spirit of turpentine was first administered:—

Treatment without Turpentine.		*Treatment with Turpentine.*	
Number of cases	164	Number of cases	164
Died	25	Died	19
Rates of mortality	1 in 6.6	Rates of mortality	1 in 8.6
Recoveries from black vomit	1	Recoveries from black vomit	4

2. Showing the number of cases treated with turpentine at the Royal Naval Hospital, Bermuda, between the 27th of August and the cessation of the epidemic in December, 1843:—

Total number of cases	882
Died	80
Rates of mortality	1 in 11
Recoveries from black vomit	24

3. Showing the number of cases of yellow fever admitted into the Royal Naval Hospital, Bermuda, during the epidemics which prevailed there in 1818, 1819, and 1837:—

	No. of cases.	Died.	Rates of mortality.
1818	105	28	1 in 3.8
1819	106	25	1 in 4.2
1837	140	22	1 in 6.4

in some seasons assuming an epidemic form, and producing great mortality. A formidable visitation of the bilious remittent was experienced in 1823; yet, although the mortality was very great, in no instance did "black vomit" occur. Reasoning from these facts, and from subsequent observation, the author believes that "vomito prieto" was not known among civilians in the colony from 1816 to 1835, and that yellow fever differs as much from bilious remittent as the epidemic or Asiatic cholera differs from sporadic or English cholera; but that no circumstance had arisen to make him believe that the disease was propagated by contagion. Dr. Nicholson described, clearly and graphically, the three epidemics of yellow fever he had witnessed at Antigua. That of 1835 was preceded by a severe hurricane that did great damage to the buildings in town and country, but more so to the vessels in the harbour of St. Johns, the capital of the island, the barometer having fallen, during the fury of the tornado, not less than 1.5 inch. The sea, which rose in the gale above its usual level, aided by the wind, deposited a great quantity of marine organic matter and vegetable rubbish about the wharves and precincts of the town bounded by the harbour; and it was remarked by the inhabitants in that quarter that the smell arising from the sea, particularly at night, was peculiarly offensive. The visitation of the hurricane took place on the 12th of August, and cases of fever began to drop in about the 20th of September; but it was not until the 10th of October that the occurrence of a case of "black vomit" declared the true nature of the epidemic, which continued to increase until the first week of November; after which it gradually declined, and by the end of December had nearly disappeared. During the progress of the epidemic, Dr. Nicholson attended 220 cases; of whom 75 were Europeans, 65 white Creoles, and 80 coloured people. Of the Europeans, 12 died, of whom 10 had not been in the island twelve months. None of the native whites died; but two of the mixed race sank, under peculiar circumstances. The character of the fever, during the epidemic of 1839, was of a more open or inflammatory type than that of 1835, and the disease made its appearance by attacking only those young men who had come to the island during the interval. The invasion of 1842 was marked by the same predilection of the disease for new-comers, and proportionate mortality among them, compared with the Creoles and the mixed race. On all these occasions, it is remarkable that the epidemic was confined to St. John's; and although Dr. Nicholson's practice extended over twenty-eight estates, on each of which white persons resided, who were unprotected by a former attack, none of them took the disease. Dr. Nicholson considers that three varieties of the malignant form of yellow fever are observable, viz., the ardent, the adynamic, and congestive or apyretic. The diagnosis of yellow fever, and the symptoms, the treatment of each form, with the appearances observable after death, were detailed in a very lucid manner, and illustrated by appropriate cases that occurred in Dr. Nicholson's own practice during the several epidemics. Dr. Nicholson is opposed to the view which recognizes yellow fever, bilious, remittent, and intermittent fevers as the offspring of the same terrestrial miasmata. He grounds his opinion on the fact that the two last-named disorders prevail more or less between September and March every year, whereas, during the last twenty-five years, there have been only three visitations of the yellow fever. The endemic forms prevail in the country districts chiefly, while the inhabitants of St. John's are seldom attacked with them; whereas, the epidemic yellow fever was confined to the city, and the garrison at the Ridgel, and English harbour. The European youth employed by the mercantile profession in the town are comparatively exempt from remittent fever, while those who superintend agricultural operations in the country never escape. After a brief but admirable sketch of the geological structures, and of the more prominent features of the several districts of the island, Dr. Nicholson states that, although there is only one district which presents unequivocal sources of paludal emanation, yet all parts of the island are at certain seasons affected by malaria. Two things, he adds, are always present when fever prevails in these districts—a hot sun during the day, and circumstances favourable to the radiation of heat from the earth, and the deposition of dew at night; and he considers that the febrific poison, whatever it may be, is deposited with the dew. In this way Dr. Nichol-

son explains the greater prevalence of remittents in country districts than in St. John's, it being well known that more dew is deposited in the open country than in cities, where houses conceal a portion of the sky; and that a soil covered with vegetation is also more favourable to the production of dew than the trodden streets of a town. The introduction of European labourers into St. John's and into the country districts has afforded ample opportunity for corroborating the views taken by Dr. Nicholson as regards the kind of fever to which town residents and country residents are respectively liable. Finally, Dr. Nicholson holds to the opinion that the disease is *sui generis*, and that it attacks an individual only once in his lifetime. "This," continues Dr. Nicholson, "was in a great measure corroborated by the epidemics that fell under my notice—not one of those persons who suffered in the first epidemic was attacked in the subsequent visitations."

Dr. Milroy said that the communication must contain much valuable information. Dr. Nicholson had been fifteen years in the island without seeing an example of black vomit. He thought that this remarkable circumstance deserved attention, because, in all probability, the occurrence of black vomit would have been considered by some as a clear proof that the disease had been introduced: whereas, the experience of Dr. Nicholson proved clearly that it arose spontaneously. The experience of Dr. Nicholson, however, did not quite agree with that of other practitioners in Jamaica; but one of the most striking features connected with the spread of the disease, which had been mentioned by the author, was its limitation to the town. Another instance had been related, in which it was confined to the military station. Epidemic diseases, according to his (Dr. Milroy's) belief, did not spread with a uniform and uninterrupted diffusion, but in scattered patches. It frequently happened that, when the yellow fever had been brought by vessels to the port, it did not spread. The treatment adopted by Dr. Nicholson differed from that practised by Dr. Blair and others, in being of an antiphlogistic nature. Now, in Jamaica, this method of treatment was not found to be the most successful; indeed, the most distinguished physicians in that island were opposed to lowering measures, and the best treatment was found to be that which consisted of a combination of quinia and calomel.

Dr. Gavin observed, with regard to the statement of Dr. Nicholson, that it was not at first easy to diagnose between yellow fever and the ordinary remittent fever so common in the West Indies; that he had found that a certain redness of the fauces and eyes constituted specific signs of the advent of yellow fever. There was no more difficulty in predicting where yellow fever would break out in the town in the West Indies, than there was in foretelling the spots where typhus and cholera would be most prevalent in England. He (Dr. Gavin) had made arrangements for obtaining a larger amount of information than had yet been collected on the subject, which he hoped to be able in a short time to lay before the public. Dr. Blair was also preparing a second edition of his work, in which much new and valuable information would be contained. Reference had been made to the difference between Dr. Nicholson's and Dr. Blair's treatment; but he conceived that Dr. Nicholson was quite justified in objecting to the employment of Dr. Blair's treatment in the ardent form of the fever—the form which he appeared more especially to have met with. Attention should, he thought, be always paid to the nature of the locality, as to whether it was, or was not, marshy, in deciding the treatment proper to be adopted in any given case. The epidemic now prevailing in the West Indies differed (said Dr. Gavin) from the previous outbreaks, in affecting natives as well as Europeans.

Dr. Camps made some allusion to an indigenous plant, which he understood was held in high esteem by the natives, on account of its supposed powers of curing yellow fever. He wished to know whether this plant had been found efficacious in the hands of European physicians.

Dr. Gavin replied that the plant in question, which was a species of verbena, had been employed by English practitioners, but he had never seen any good result from its use which he could ascribe directly to the plant itself; and he referred whatever benefits might have been derived during its administration

to the large quantities of warm water with which it had been combined. There was, however, another plant which Mr. Purday had discovered, and which he thought would be found to possess virtues nearly equal to those of quinia, though belonging to a different order. He did not, however, wish to pronounce any opinion on the merits of this plant, as its properties had not yet been fairly investigated or its medicinal powers tested. No good could, therefore, result from any premature announcement respecting it. He (Dr. Gavin) quite disagreed with the remarks that had fallen from one of the preceding speakers (Mr. Richardson) respecting the independence of epidemics on meteorological conditions; for he had noticed that, in the West Indies, the prevalence of the wind from a particular quarter was necessary for the outbreak and progress of yellow fever.—*Med. Times and Gaz.*, Aug. 6, 1853.

25. *Abstract of Eighteen Cases of Typhus Fever, treated in King's College Hospital by the free exhibition of Brandy, &c.*, under the care of Dr. Todd.—We have recently watched with great interest a series of severe cases of typhus fever, under the care of Dr. Todd, in this hospital, in which an almost uniform plan of treatment, by means of the very free exhibition of stimulants, more especially brandy, has been resorted to with great success. Reflecting instructively, as these cases do, on one of the most important questions in the whole range of practical medicine, we hasten to bring their chief features before the attention of our readers. The series consists of eighteen cases; and, as we cannot, of course, find space for the details of the whole, we shall content ourselves by recording, by way of example, the particulars of a few of the more interesting, and append to them a brief synopsis of the rest. The whole having occurred within the last few months, and several of them within a few weeks, they present, we believe, fair specimens of the form of fever lately and still prevalent in the metropolis. They do not, however, comprise all which have been under Dr. Todd's care during the time referred to, but only those of well-marked typhus type, and which agreed in presenting the following symptoms previous to the commencement of the treatment: A copious eruption of scattered measle-like spots (mulberry or typhus rash); bowels either confined or but slightly relaxed; great prostration of strength; delirium (in six cases, coma was present); a small and very rapid pulse. It may be well to premise that they were treated as is done in almost all general hospitals in the open wards, their beds being purposely arranged so as to occur at some distance from each other, in order to prevent the accumulation of contagious emanations. The treatment pursued consisted in administering, either every hour or every half hour, day and night, from half an ounce to an ounce of brandy, with a draught every second hour, containing sp. æth. chlorici ℥x, ammoniæ carbonatis gr. v; aq. pur. ℥j. The patients were induced to drink as much strong beef-tea as possible; the head was always shaved; and, in most, a blister was applied to the scalp. We are indebted to the careful observations, noted daily by Mr. Macnamara, the clinical assistant in charge of the cases, for the whole of the particulars respecting them. The first to which we shall allude was a very severe attack, and happened to an elderly and unfavourable subject; the beneficial effects of the alcoholic stimulant is strikingly shown, and there even appears some cause to infer the superiority of brandy over wine.

Elizabeth B., aged 70, was admitted June 16, 1853. She complained of severe headache, and of much pain in her limbs; was very deaf, and could see but very indistinctly. Her daughter stated that the two latter symptoms had commenced four days previously, and the illness was of about a fortnight's duration, having begun with aching pains in the limbs and head, and great prostration of strength, followed, after four or five days, by several successive shivering fits. Pulse 122; tongue thickly furred.

℞. Tinct. opii ℥xx h. s. sumend.

℞. Sp. am. arom. ℥xx; aq. pur. ℥iss. 4tis horis sum.

18th. The skin of chest and abdomen is covered with an eruption of measly spots. The patient has been delirious during the night; her tongue is dry and furred; pulse 124; the bowels have acted but once since admission. Pt.

19th. Has been very delirious; pulse 126; other signs as before.

R. Am. carbon. gr. v; sp. æth. ♏xv; aq. ℥iss. 3tis horis. Wine ℥viii per diem.

21*st*. Much worse; lies in an almost comatose condition, and allows her urine and feces to pass into the bed. Pulse 130. The head is to be shaved, and a blister applied. Instead of the wine, half an ounce of brandy is to be given every half hour.

Rep. mist.

22*d*. Pulse 124. The half-comatose condition still continues, and is only interrupted by low, muttering delirium.

23*d*. Pulse 120. The coma is passing off, and the delirium is less constant during its intermissions. The spots have now entirely disappeared from the skin. The patient takes her beef-tea much better than she did.

24*th*. Pulse 114. This morning the head symptoms are much less severe; and, on being questioned, the patient occasionally returns rational answers. The bowels act daily, but are not loose. To continue the same treatment.

25*th*. Pulse 96. The skin for the first time is moist. The patient states that she feels much better, and can be got to understand clearly where she is, which has not been the case on any previous occasion since her admission.

26*th*. Pulse 90. To take half an ounce of brandy every two hours.

From the last date she continued to improve. To aid her convalescence, quinia and other tonics were administered. She was discharged quite well, six weeks after admission.

In the next case, the progressive decrease in the frequency of the pulse subsequent to the employment of the stimulant was equally well marked as in the above. It occurred in a much younger subject.

James E., aged 18, began to feel ill on the 27th of June; and, on the 29th, was seized with shiverings, pains in the limbs, and great prostration of strength. He was admitted into the hospital on July 5; and, at that time, the skin was hot and dry, and covered with the typhus rash. The ocular conjunctiva of each eye was red and congested, and the tongue brown and furred. Pulse 112.

Ordered R. Am. carb. gr. v; aq. pur. ℥iss; ter die. Beef-tea *ad libitum*.

July 6. Pulse 120. The bowels have acted once to-day. Delirium was present during the night.

Rep. mist.

7*th*. Pulse 124, very weak. The delirium has been so constant, that the nurse has found it impossible to induce him to take any nourishment. Rep. mist. The head is to be shaved, and half an ounce of brandy is to be administered every hour.

8*th*. Pulse 120, still very feeble. Bowels act daily.

9*th*. Pulse 112. The delirium is much abated, and the patient takes his beef-tea well.

11*th*. Pulse 100, much improvement. The brandy is to be continued.

12*th*. Pulse 92. For the first time the skin is moist and perspiring. From this date the patient gradually recovered.

At one time most of the members of an Irish family living in a dirty alley in the neighbourhood were in the hospital together, all suffering from the same type of fever. The following case is that of one of the sons:—

John C., aged 15, admitted June 28, having been seized on the 23d with shivering, pains in the limbs, prostration of strength, and severe purging. He had, at the time of admission, the usual symptoms of fever, was very restless, and at times slightly delirious. The bowels were not much relaxed; there was loud rhonchus heard over both lungs. Pulse 116, skin hot and dry. To drink beef-tea.

29*th*. Pulse 118, very feeble. The delirium is increased. Half an ounce of brandy every hour.

July 1. No improvement. Pulse 120, and very weak. The boy lies in a semi-comatose condition. Believing that the administration of the stimulant had not been well attended to, Dr. Todd ordered a special nurse for the case, and directed that the brandy and beef-tea should be regularly given day and night.

2d. Pulse 100. The patient is less stupid, and seems to understand the questions which are put to him.

4th. Pulse 92. There is no delirium present. The tongue is much cleaned, and the respiration is unattended by any degree of rhonchus.

5th. Pulse 80. The skin is moist. The brandy is to be given every two hours.

8th. Is rapidly getting better. The brandy is discontinued, and two pints of porter per diem substituted for it. From this time the patient very quickly recovered.

Out of the whole eighteen cases, but one terminated fatally. The subject of it was very violently delirious on the day of her admission, and no account of her previous symptoms could be obtained. Death occurred on the third day afterwards. On making the autopsy, the brain was found to be slightly congested, and the gray matter was of a darker colour than usual. Peyer's patches in the small intestines were enlarged and very distinct, but not ulcerated. The spleen was enlarged, full of blood, and very soft; but all the other organs appeared to be in a normal condition.

Excluding, then, this fatal case, we will now examine the condition of the circulation in the remaining 17, more especially with regard to the influence of the treatment upon it. On the day that the administration of brandy, etc. was commenced, the pulse had, in five cases, a frequency of 136 per minute; in three, of 126; in seven, of from 120 to 126; and in one, of 116. After the measures above specified had been pursued for four days, the pulse had, in eight cases, fallen to 92; in five others, it had fallen below 92 on the fifth day; and, in the remaining four, to below 90 on the sixth. Again, taking the day on which treatment was commenced as our starting-point, the skin, previously hot and dry, relaxed, and became moist and perspirable, on the fifth day, in nine cases; on the sixth day, in five cases; on the twelfth day, in one case; and in the remaining two the date of this crisis was not recorded.

The degree of success exhibited by the above facts is, we suspect, very considerably beyond that usually obtained in cases of so severe a type as those under consideration, and is very encouraging to a pursuance of a similar plan of treatment in future. That the success did really depend on the treatment, appeared to be conclusively evidenced in several cases, in which the pulse, progressively increasing in frequency up to the time that the brandy was ordered, steadily fell from that day forwards. The relapses of one or two, in consequence of the accidentally inefficient administration of the remedy, also afford important support to the same conclusion. In respect to the numerical age of the fever at which the brandy treatment was commenced, it varied so much in the different cases, that there does not appear to be any practical advantage in attempting to state it. In all, however, the first stage had passed, and low "typhus" symptoms had become fully developed. Dr. Todd is continuing the same plan of treatment on the fever patients now under his care, and hitherto with very pleasing results. We shall probably return to the subject at some future time.—*Med. Times and Gaz.*, Aug. 27, 1853.

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26. *Three Cases of Hemiplegia, caused by the blocking-up of a Cerebral Artery.*—Dr. Ruhle remarks that sudden hemiplegia, occurring in heart-disease, with or without loss of consciousness, is not uncommon; dissection shows, in such cases, sometimes hemorrhage, sometimes softening, and with the latter lesion blocking-up of an artery is often combined. Virchow, in his work on *Acute Inflammation of Arteries*,[1] first showed that such blocking-up of arteries could arise from the arrest in them of foreign bodies brought from distant parts. The three cases of hemiplegia now related prove the same fact. In the first case, sudden hemiplegia on the right side came on in a patient with hypertrophied heart and diseased aortic valves; after death, the left arteria fossæ sylvii was found blocked up with a calcified mass, evidently detached from an aortic flap, and the left corpus striatum was softened. The author declines to say whether the softening followed the obliteration, but has little doubt that the sudden

[1] Archiv. für pathol. Anat. vol. i. p. 272.

hemiplegia was attributable to the latter cause. The second case seems to render this opinion highly probable. In this instance, sudden right hemiplegia came on, followed by death in seven hours. On section there was blockage of the "carotis cerebralis sinistra," caused by lodgement of a clot which had been detached from an old chalky concretion hanging down from a contracted mitral orifice into the ventricle; there was, however, no softening of the cerebral substance, so that here *the mere arrest of circulation, in a particular part of the brain, caused hemiplegia, without visible alteration of the brain-substance.* In the third case (phthisis pulmonalis), without any cardiac murmurs, sudden right hemiplegia came on; on section, the "carotis cerebralis sinistra" was blocked up with a white, tough, elastic plug; there was yellow softening of the under and middle part of the left hemisphere. On the mitral valve were two fibrinous coagula, white, elastic, and seated on and firmly adhering to excrescences on the valves. In all other vessels between the mitral valve and cerebral artery were no other coagula. In all these three cases, the coats of the cerebral arteries were normal, and there was no local cause for their blocking-up.—*Virchow's Archiv.* vol. v. p. 189.

[These observations were evidently made without cognizance of those previously recorded by Dr. Kirkes;[1] and they are therefore extremely valuable as confirmatory evidence, as well as in the novel fact they prove, that mere deprivation of blood will cause hemiplegia.]—*Brit. and For. Med.-Chir. Rev.* July, 1853.

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27. *Progressive Atrophic Muscular Paralysis.* By M. Cruveilhier.—M. Aran has described, in the *Archives Générales*, a form of muscular paralysis, under the term "progressive muscular atrophy;" and M. Thouvenet has described the same lesion under the title "atrophic muscular paralysis." Since 1848, this form has been familiar to M. Cruveilhier; and in the present memoir various cases of it are related. The first case was that of a lady, aged 40, with general paralysis, more marked in the upper than in the lower extremities, and unaccompanied by lesion of sensation, or alteration of intellect. Death ensued by extension of the paralysis to the diaphragm and laryngeal muscles. A profound lesion of the spinal cord was diagnosed, but after death the nervous centres were found to be perfectly healthy. The true nature of the case was not recognized, and M. Cruveilhier, not content with the term *névrose*, given to the case by other physicians who witnessed it, accused pathological anatomy of want of power to recognize some lesions of the brain and cord. The second case was that of a man, aged 18, with general paralysis, sensation and the intellectual faculties being unaffected. An affection of the anterior column of the cord was diagnosed, but after death the cord was found perfectly healthy. The muscles were carefully dissected, and were found to be atrophied in two ways, viz., by simple atrophy, and atrophy with fatty degeneration. The state of the nerves was not examined. In the third case, there was gradual muscular atrophy and paralysis, with retention of intellect and sensation. In addition to the paralysis, there were tremors, or little convulsive shocks, of the muscles of the extremities, as long as the atrophy was not complete. There was also, occasionally, a kind of general trembling or shivering. Death finally ensued from general bronchitis and "œdematous pneumonia." Many of the muscles were atrophied and in a state of fatty degeneration, exactly resembling, as M. Cruveilhier remarks, the state of the muscles described by Dr. Meryon, in the last volume of the *Medico-Chirurgical Transactions*. M. Mandl, in drawing the microscopic appearances, produced plates precisely similar to those of Dr. Meryon. The brain was perfectly healthy; so also was the spinal cord and the posterior roots of the nerves. *But the anterior roots, especially in the cervical region, were found to be greatly diminished in size; in fact, atrophied.* This condition was traced till the union of the roots; in the conjoint nerve on the distal side of the ganglion no change could be detected; the trunks forming the brachial plexus, and this plexus itself, were healthy. The nerves running in the thickness of the muscles were, however, atrophied; and this was traced most exquisitely in the tongue, of which there had been perfect paralysis. The lingual (gustatory) nerve was

[1] See No. 22, p. 384.

well fed and of proper size, but the hypoglossal (motor) nerve was extremely atrophied; many of its branches seemed to consist of nothing but neurilemma.

M. Duchenne had electrolyzed this patient, and found that, as the paralysis advanced, the muscles became inexcitable.

M. Cruveilhier remarks on these three cases, that the first case showed only paralysis without disease of the nervous centres; the second, more completely examined, exhibited great muscular atrophy and degeneration; while the third, still more carefully dissected, showed, in addition, atrophy of the anterior roots and of the muscular branches of the nerves. He remarks, also, that the clinical history and the morbid anatomy exactly accord. There is conservation of intelligence, and want of disease in the brain; conservation of sensation, and the cord and posterior roots are unaffected; paralysis of motion, and the motor nerves and muscles are atrophied.

But what is the connection between the atrophy of the muscles and of the nerves? Which is primary and essential?

The coincidence of nervous and muscular atrophy cannot properly be regarded as an exceptional case; nor, in all probability, is it a simple coincidence. Cruveilhier, after referring to the rapidity with which the atrophy occurs, to the great influence of the nerves, and to a case (of Dupuytren's) in which atrophy of one-half of the tongue succeeded compression of the hypoglossal nerve by a cyst, regards, as demonstrated, that the atrophy of the nerves is the primitive lesion, and the atrophy of the muscles is consecutive, and a consequence merely of diminution of function.

But what is the cause of the nervous atrophy?

Here observation at present fails, and future clinical experience must solve the problem. M. Cruveilhier believes that he has accomplished one step of progress in showing the implication of the nerves. How the nerves become implicated must now be learned.—*British and Foreign Medico-Chirurgical Review*, July, 1853, from *Archives Générales*, May.

28. *Writers' Cramp.*—M. Hubert Valleroux related to the Société Médico-Pratique of Paris the case of a man, aged 40, an accountant, of good constitution, who wounded the middle finger of the right hand with a bit of a percussion cap, in discharging a gun, four years ago. Although the fragment was immediately extracted, a certain degree of sensibility remained. Subsequently an abscess formed, which, when opened, gave exit to another bit of cap. Some time afterwards, the patient began to experience cramp in the hand, which could not steadily hold the pen, but permitted it to slip about, so as to render him incapable of keeping his books. Then the affection spread, though in a slighter degree, to the left hand, and the man was obliged to give up his employment entirely. Frictions, liniments of every kind, effected no melioration in the patient's condition, and M. Hubert Valleroux inquired whether any of the members of the Society could assist him. The extension of the affection from the right to the left hand appeared, according to M. Dreyfus, to indicate that this curious affection was of rheumatismal origin. M. Perrin remarked that the affection had been described of late years by several authors, under the name of writers' cramp, and that mechanical support seems to give the patient the most relief. M. Delthil stated that the disease was not confined to writers. There were two cases upon record; one of its occurrence in a shirt-maker, who became unable to use the scissors; the other, in a church-clock painter, who lost the power of steadily holding the long brush necessary in his art. M. Amenille recalled to the Society's remembrance the fact that there had already been a discussion upon this fact, with reference to a certain pianist, whose fingers became so convulsively cramped in executing a piece, that he was forced to give up his profession. Attempts to afford him relief had been made by fitting on the fingers large heavy rings, and on the wrist a heavy bracelet. No advantage ensued.—*Société Médico-Pratique of Paris*, May, 1853.

This disease is occasionally, though rarely seen in England; but M. Hubert Vallerous is in error in supposing that the extension of the cramps from one hand to the other is rare. It may be regarded, on the contrary, as the rule,

though the affection is usually more severe in the part where it commenced. As occurring in writers, it may be more accurately described as affecting the muscles of the thumb. In a case mentioned to us by Mr. Holmes Coote, the disease consisted, not so much in spasmodic contraction of the flexor muscles, as in a sudden temporary paralysis of the extensor muscles of the thumb, for the digit did not convulsively close in the palm of the hand, but simply slipped away from the pen, after being applied to it for a few moments, evidently from loss of power in the opposing force to the flexor muscles. The disease in this case extended from the right to the left hand, where, however, it never attained the severity manifested in the part first affected. The only mechanical contrivance which afforded even partial relief was an apparatus consisting of a circular holder attached to two rings, which fitted on to the fore and middle fingers, and held the pen suspended independent of the thumb. But after a time the extensor muscles of the fingers became weak, and the patient was obliged to acquire the habit of writing with the left hand. It is worthy of remark, that every other movement of the hand, however minute, save that of writing, was retained perfectly by this patient.—*Med. Times and Gaz.* Sept. 10, 1853.

29. *Statistical Report of Fatal Cases of Diseases of the Brain occurring during the last Four Years at St. George's Hospital.* By A. W. Barclay, Medical Registrar. (*Proceedings of the Royal Medical and Chirurgical Society*, June 28, 1853.)—The author was induced to present to the Society this statistical report from a conviction that our knowledge of the relation between the symptoms and pathological states of the brain was as yet very imperfect; and he believed that greater certainty in the diagnosis could only be accomplished by an accumulation of facts, and by arranging these in the present form he was led to hope that some useful and authentic information might be obtained. The report was wholly confined to cases in which, by *post-mortem* examination, the nature of the lesion was ascertained; for his object was to deal with facts, and not with theories; and for the same reason no reference was made to the proportion of cases admitted into the hospital, nor to the relative proportion of deaths and recoveries among persons supposed to be labouring under similar diseases. It was hardly necessary to add, that diseases of the brain yielded an invariably high ratio of mortality. The cases were divided into scrofulous inflammation, with or without actual presence of tubercles in the brain; simple inflammation; abscess; softening of a non-inflammatory nature; delirium tremens; apoplexy; and tumours. The author proceeded to offer some observations on the cases included in these several divisions.

1. *Scrofulous Inflammation.*—These cases were twenty-eight in number, and the age at which such cases proved fatal contrasted remarkably with other diseases of the brain. There were nine under fifteen years of age; five from fifteen to twenty; seven from twenty to twenty-five; four from twenty-five to thirty; two from thirty to forty; one from forty to fifty; one over fifty years of age. No facts were recorded in the majority of the cases which threw any light upon the usual exciting cause of scrofulous inflammation of the brain. The symptoms were sometimes slowly and insidiously developed, at other times setting in with unexpected violence; while no point in the history of the case could be learned in any way accounting for their origin. And this had not unfrequently been the case when the patient was under observation at the commencement of the disorder. In nineteen of the twenty-eight cases, scrofulous or miliary tubercles were found in the brain or its envelopes, the proportion of yellow, cheesy, or scrofulous tubercle being far greater than those of the miliary kind. The mode of incursion of this form of brain disease was very various; but those in which it was most difficult to recognize were the cases commencing with symptoms resembling ordinary continued fever. In three instances, there had been previous attacks referable to the nervous centres; in another instance, the symptoms were developed soon after a fall; in one, after exposure to the sun; in the remainder, there was no satisfactory history. In eleven cases, pain in the head was the earliest symptom; in six, delirium was the first prominent symptom; in two, convulsions commenced as the first evidence of mischief. In eleven out of twenty-eight cases, pain of the head was not complained of; delirium was

absent in eight cases of this class. Convulsions may be said to be the rule, and their absence the exception in childhood. Among the twenty-eight cases, there was no exception to this under the age of thirteen. The period at which delirium commenced, convulsions, paralysis, partial or general strabismus, were also carefully noted and recorded. The *post-mortem* condition of the cerebral mass, as well as of the membranes and vessels accompanying the scrofulous deposit, were next compared.

2. *Simple Inflammation and Congestion.*—The ages of these patients formed a striking contrast to those of the preceding class. Here the earliest period of fatal inflammation was sixteen years, and only three were reported under the twenty-seventh year, the period at which all but five of the scrofulous cases had terminated. Classed in periods of ten years, there were three cases from fifteen to twenty-five, eight from twenty-five to thirty-five, four from thirty-five to forty-five, three over forty-five years of age; the oldest occurring at the age of fifty-seven. Of the eighteen cases, only four were of the female sex. The mode of incursion in cases of simple inflammation was less insidious, and more commonly traceable to a distinct exciting cause, than in the preceding class, and there were only three instances recorded in which the history of the case and the character of the symptoms rendered the diagnosis of acute disease in the brain by any means doubtful. The special symptoms characteristic of cerebral lesion, pain of the head, delirium, convulsions, and paralysis, were noticed in relation to their frequency and the period of their occurrence. Of the *post-mortem* appearances, lymph or turbid serum was found in nine cases upon or under the arachnoid; in fourteen cases, fluid was found in the ventricles. The brain was soft in four cases, two with increased vascularity, and two with a watery state of the brain. It was congested in eleven cases, and wet and pale in three. Then followed a contrast between the symptoms in the scrofulous and the non-scrofulous class.

3. *Abscess of the Brain.*—Five examples were recorded of this form of disease. The history of these cases was somewhat obscure, and the causes which determined this action in the cerebral lobes, and the period at which suppuration actually commenced, were uncertain. Four of the cases were encysted; one was simple abscess, two were associated with caries of the temporal bone, one with suppuration on both sides of the cranium opposite to a sloughing wound of the integuments.

4. *Softening of a non-inflammatory kind.*—Only one instance of this form of lesion was recorded; its duration was five months; its progress was chiefly marked by the existence of hemiplegia, with indistinct articulation; the whole of the medullary substance on the left side was softened and diffluent; the brain appeared congested.

5. *Delirium Tremens.*—Ten fatal cases of this disorder were recorded. They were all of the male sex. The ages varied from twenty-nine to fifty-four. Various diseased states of other organs were noted, which probably exercised an influence, more or less decided, in causing the cases to terminate fatally. The heart was diseased in seven cases; the liver in six; the kidney in two. In four cases, tubercles were found in the lungs; once recent; five times in the form of a cretaceous mass. The membranes of the brain were congested in four cases; an excess of fluid was found under the arachnoid in eight cases. In six cases, the ventricles contained an excess of fluid. The substance of the brain was in the majority of cases "wet."

6. *Apoplexy.*—There were fourteen cases of this disease: nine males; five females. Seven cases from forty to fifty years of age; three from fifty to sixty; three from sixty to seventy; one over seventy years. Atheroma of the arteries at the base of the brain existed in seven cases; healthy in five. The heart was distinctly hypertrophied in seven cases; in all of these cases the kidneys were also diseased. The anatomical conditions in the brain were various: in one case, an old apoplectic clot under the arachnoid; in another case, turbid serum under this membrane; there was effusion of blood in this case, limited to two small clots in the third and fourth ventricles. In three cases, there was a good deal of blood effused at the surface, with large clots in the substance of the brain. In nine cases, the clots occupied a central position with reference to

the hemispheres. Distinct softening in the vicinity of the clot was found in five cases.

7. *Tumours.*—Of these were six cases: three males, three females; ages varied from twenty-four to forty-nine. Four were examples of encephaloid disease; two of encysted growths.

8. *Anomalous Cases.*—Two cases could not be referred to either of the preceding classes. There was no evidence of any anatomical lesion in the cerebral structures; while the symptoms during life were distinctly characteristic of brain disease. In one, the kidneys were in a state of degeneration, but the author doubted if albuminuria ever produced paralysis of one side of the face and strabismus, which preceded the stupor and coma, terminating fatally.

The author concluded by a general summary of the symptoms during life, in relation to the anatomical lesions recorded after death.

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30. *Intermittent Diabetes, and the Diabetes of Old Age.* By H. B. Jones, Physician to the St. George's Hospital. (Proceedings of Royal Medical and Chirurgical Society.)—The author's object in this communication was to point out some phenomena connected with diabetes which he had not found mentioned by other writers. Preliminary to the record of the cases, the author offered some observations on the incorrect results obtained by calculating the amount of sugar present in the urine from the specific gravity. If diabetic urines were solutions of nothing but sugar in distilled water, the tables by Dr. Henry, and the amount of sugar calculated from the specific gravity, would give all the information required; but a multitude of other substances were present besides sugar, each of which was variable, and each of which might cause the specific gravity to vary, whilst the quantity of sugar might remain constant. To be accurate, therefore, the amount of sugar should always be determined by direct experiment, and never calculated from the specific gravity. Results were given, exhibiting the specific gravity, the amount of sugar calculated from solid apparatus, and the absolute amount of sugar obtained by direct analysis. On the subject of intermitting diabetes, the author observed that there could be little doubt that our knowledge of the nature of this disorder might be extended by means of accurate determination of the varieties in the amount of sugar in the urine passed at different periods of the day, and under different circumstances. His object in relation to this form of the disease was to record some cases in which, either from the medical treatment, or the regimen, or the natural course of the complaint, the variation in the amount of sugar was not from much to little, but from highly saccharine urine to total absence of sugar. The state of the urine a few hours after the sugar had disappeared, and an hour or two before it reappeared, was most especially worthy of attention, inasmuch as it might lead to a truer knowledge of the state of the system which preceded the commencement of diabetes. In intermitting diabetes, the disease might be seen beginning and ending, and the explanation of the state of the urine which preceded the appearance of the sugar and followed its disappearance must be included in the true theory of diabetes. Moreover, a better knowledge of the antecedent phenomena might enable us to ward off the disease, if not to treat it with more success. The records of seven cases of the intermitting form of the disease were given, and very minute particulars in several, illustrated the amount of sugar present in the urine at stated intervals in the twenty-four hours, as well as the influence of particular forms of diet on the proportion of sugar excreted. In these cases the state of the urine just after the sugar had disappeared was worthy of attention. A remarkable excess of urea was constantly found before and after the sugar disappeared; and although this might be attributed to the animal diet, yet the occurrence of free uric acid and oxalate of lime in the urine pointed most clearly to a state of indigestion which was every day to be found without any sugar appearing in the urine. The author offered the following theoretical contrast between ordinary and saccharine indigestion: Ordinary indigestion showed itself in a want of action on the sugar and starch taken as food, in consequence of which excessive acidity was produced—that is, the changes in the non-nitrogenous food were imperfect. Imperfect changes also occurred in the nitrogenous food; this

was made evident by an excess of urates and urea in the urine, and perhaps also by the formation of oxalate of lime. In diabetic indigestion the effect might be traced also on the two great classes of food. At first from the non-nitrogenous food sugar was formed instead of acid. Ultimately, if not simultaneously, sometimes the arrest of healthy changes extended to the albuminous food, and, instead of an excess of urates and urea, other products were formed, one of which was sugar. It was possible that some of these products might be found in the urine. Possibly benzoic acid, which is present in some cases of diabetes, in variable quantities, might be one of the new products. Whether this theory were true or not, it was of practical importance to remark the tendency to acidity in these cases of intermitting diabetes. In such cases, animal diet alone, or with alkalies, might stop the formation of sugar. It followed also, that, when oxalate of lime, uric acid, and excess of urea, were found in the urine, it was probable that the diabetes might be temporarily, if not permanently, removed. The occurrence or absence of these substances in the urine might lead to the recognition of the stage of the disease, and they might thus guide us in our prognosis and treatment. The second part of the communication related to the frequency of diabetes in old age. Reference is made to a paper, by M. Dechambre, on this subject, who concluded, from observations made on the urine of old people at the Salpêtrière, that sugar was habitually present in the urine of old people. The author gave the particulars of nine cases of diabetes in elderly people, and thought that the occurrence of this affection at the latter periods of life pointed also to the theory of diabetes as an indigestion resulting from an arrest of healthy changes in the food. The cases mentioned in this communication were, in the opinion of the author, opposed to the view of diabetes depending upon an affection of the nerves, or of the liver; and his daily observation led him rather to the view taken by Dr. Prout, that diabetes was an indigestion, and that it first affected the non-nitrogenous, and afterwards the nitrogenous, constituents of our food. As regarded treatment, whatever was beneficial for excessive acidity, was found equally serviceable in diabetes. Alkalies were used in all the cases with benefit. Small meals, free from sugar and acid and the substances that could give rise to sugar and acids, constituted the best diet. He found, also, that vegetable acids with alkalies were occasionally useful. In a foot-note, the author mentioned some experiments he had not yet published, determining the quantity of sugar in several kinds of beer and wine. Porter contained from 27 to 57 grains of sugar in each ounce of liquid; ale from 43 to 50 grains; beer 25 to 40 grains; port-wine 8.5 to 11 grains; sherry 2 to 4.7 grains; claret none. The absence of all sugar, and the presence of a little alcohol, caused claret to taste highly acid, while the quantity absolutely present was not more, sometimes less, than in other wines which have no acid taste, as, for example, most port wine.—*Med. Times and Gaz.* July 30, 1853.

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31. *Diabetes Mellitus not Incurable.*—M. Schutzenberger, Professor of Clinical Medicine at the Faculty of Strasburg, has just published a case, which would tend to show that diabetes mellitus may, by appropriate treatment, be in some degree arrested, and the patients be restored to comparative health. M. Hepp, the chief pharmacien to the hospital, examined the urine almost day by day, and thus was the physician enabled to ascertain with great accuracy the progress of the case, and the influence of the treatment.

The patient is a countrywoman, forty-seven years of age, who, after enjoying good health all her life, grew gradually thin, lost her strength, and was tormented with great thirst and a most voracious hunger. She was admitted into the hospital on the 10th of November, 1851, and presented all the symptoms of the disease. From the 11th to the 14th, the patient was watched without any regulation as to the food or medicine, and she was noticed to feed largely. For the subsequent week, the food, which consisted of a quarter of a pound of bread, two chops, two eggs, and a small allowance of other meat, was carefully regulated, but no medicine given. In this week, the quantity of sugar diminished from seventy parts of sugar in a thousand parts of urine to fifty-six. An attempt

was then made to substitute gluten bread for the ordinary article, but the patient could not take it.

The use of opium was begun at this period, three pills, of a little less than half a grain each, being taken in one day, and the tolerance was soon sufficiently established to increase the number of pills to twenty per diem. The patient was taking at the same time fifteen grains of theriaca (an ancient compound having opium for its basis), and from fifteen to forty-five grains of bicarbonate of ammonia. With these medicines, and the above-mentioned diet, all the symptoms improved; the amount of urine did not exceed the fluids ingested, and the specific gravity became reduced from 1.0376 to 1.0278. The absolute amount of glucose excreted in twenty-four hours fell, at the end of a fortnight, from about half a pound to a little more than two ounces.

For the next three weeks, no change of importance took place; but, as it was noticed that the patient procured sweetened diet drinks, she was restricted to plain water, to weak solutions of carbonate of soda, or Vichy water. This change gave rise to a fresh diminution in the amount of glucose, which became reduced from half a pound, the original quantity excreted in the twenty-four hours, to two ounces, or 19.78 parts in a thousand parts of urine. The opium was left off on several occasions, on account of giddiness, somnolence, or gastric derangement, but the use of the medicines was always resumed in a short time.

On the 20th of January, 1852, almost two months after admission, bread was given up altogether, and on the next day the absolute amount of sugar fell to a little more than three drachms in the twenty-four hours. Finally, from the 22d to the 30th of January, glucose entirely disappeared; but it was now and then found again afterwards, varying from between a third of an ounce to two ounces in the twenty-four hours. These variations were all caused by errors of diet, and the patient generally confessed her irregularities. Milk had no influence on the amount of glucose; one pint a day produced no unpleasant effect, and the patient consumed besides, in the course of the summer, small quantities of olive oil and butter.

It would be tedious to follow up all the oscillations during the whole of 1852; suffice it to say, that for days together no glucose was excreted; it then used to reappear in the urine, and again vanish entirely. The general health improved in the meanwhile, and, at the beginning of 1853, the treatment by opium, alkalies, and the regulated diet, having all the time been carefully persevered in, the glucose disappeared completely from the urine, and the patient was able to resume the use of bread, of which she took from three ounces to a quarter of a pound a day, along with potatoes and vegetables. Glucose was only once noticed in the urine in February, 1853, but soon disappeared again.

The patient can now use a mixed kind of food without excreting any sugar, viz.: meat, a quarter of a pound of bread, and vegetables; but the tendency to relapse is certainly not annihilated, as was shown in February; which relapse was caused by the ingestion of a large quantity of potatoes. The health is good, the thirst is not troublesome, but the patient eats little, and the muscular system has certainly not recovered its former energy. In March, 1853, a little albumen was detected in the urine, but no sugar reappeared. The patient will be kept in the hospital to the end of next winter; and though M. Schutzenberger does not look upon the cure as completely radical, he thinks that relapses may be avoided by adhering to a diet composed of meat and feculent substances in regulated proportions.

Some facts, not mentioned above, in order not to interrupt the narration, are adduced by the author at the end of the paper. It was, for instance, noticed, that the sugar diminished considerably after a smart purgative; but the fecal matter then contained a large proportion of sugar, whilst the ordinary solid motions contained none. A chemical examination also proved the absence of sugar in the sweat and saliva of the patient. The author concludes his paper by the following series of rules and deductions:—

1. Glucosuria is not an incurable disease, and although the tendency to relapse is certain, it is possible, by perseverance, not only to remove the sugar from the urine, but also to bring the patients so far as to bear a varied diet, in which feculent substances may enter without causing a relapse.

2. The amount of glucose excreted by patients is sensibly proportionate to the quantity of feculent matter added to the food, and it is possible to discover errors of diet by the increase of the glucose in the urine. The quantity of urine is equal to that of the fluid ingested, and the latter also proportionate to the amount of the feculent substances taken into the economy.

3. Diet forms the principal part of the treatment of glucosuria; the food ought chiefly to consist of milk, fatty substances, butter, oil, eggs, and meat.

4. The entire banishment of feculents seems necessary to make the sugar disappear completely.

5. Small quantities of bread, viz.: about three ounces per diem, are generally well borne, and do not excite a fresh secretion of sugar when once it has disappeared.

6. The powers of assimilation increase gradually, and it is possible, by means of chemical analysis, to ascertain the extent to which the peculiar diet and medicine ought to be carried.

7. The effect of the diet is powerfully assisted by the use of certain therapeutic agents, and especially by opium, in increasing doses, and by alkaline drinks. In this affection the tolerance of the opium is very great.

8. It is certain that the glucose is formed in the alimentary canal, and that the absorbents generally take it up, so that solid motions come to contain no sugar.

9. Purgatives may cause a diminution of glucose in the urine, as more or less of the sugar which would have passed into the urine is carried away by the liquid stools.

The author does not enter into any theoretical discussion touching glucosuria, as his object was merely to call attention to a series of interesting and instructive facts.—*Lancet*, Aug. 6, 1853.

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32. *The Relation of the Appearances in the Urine to Disease of the Kidney.*—There is, in *Virchow's Archiv.* v. 199, an interesting paper on this subject, by C. E. L. Meyer. Dr. M. attempts, by careful examination of the urine during life, and of the kidney after death, to resolve the following questions:—

1. In cases of mere catarrhal or fibrinous inflammation of the kidney, does the urine present appearances similar to those which occur in the more serious structural degeneration commonly called Bright's disease?

2. Can the first-named slighter inflammatory affections of the kidneys be detected during life, in the course of other diseases, by an examination of the urine, with the same frequency as they are found to have existed by inspection after death?

3. If the first question is to be answered in the affirmative, is there any possibility of distinguishing, in examination of the urine, between the changes induced upon it by the slighter, and by the more serious cases above mentioned?

The importance of these questions must at once be understood; and, in fact, we fancy that most practical men have already revolved them in their minds; for how often does it happen, in cases of scarlatinous dropsy, for example, that we observe the urine turbid, bloody, or albuminous, or pale, moss-water like, and also albuminous; in fact, presenting derangements much more remarkable than those accompanying many cases of incurable Bright's disease, and yet the patient, in the course of a week or two, restored to health, with sound kidneys, and urine perfectly natural?

In reply to the first question, our author concludes that, even in the slightest forms of inflammatory affection of the kidney, occurring in the course of other diseases, the urine is found to contain albumen and plastic coagula from the tubuli uriniferi, the latter of course to be detected in the fluid by the aid of the microscope; in fact, that there exists no case of such renal inflammation, without the consequent appearance of these coagula in the urine.

With regard to the information which may be gathered from the appearance of these casts of the urinary tubules, as to the actual condition of the kidneys, he finds that the greater their consistence and refractive power, and the less their solubility in muriatic acid, the more intense is the inflammatory action; while the greater their number, the more widely is it spread over the organ;

but that there is no constant relation between the quantity of albumen in the urine, as displayed by the usual tests, and the number of these casts.

The simpler inflammatory affections of the kidney may be of very short duration, the organ being very rapidly restored to health, or, on the other hand, they may last very long, and yet without inducing any deep-seated degeneration; and the answer to the third question above stated thus becomes most important. After a full examination of the point, our author comes to the conclusion that while, by the examination of the urine, we may generally distinguish between acute and chronic renal disease—the former giving rise more frequently to the appearance of blood and of small albuminous masses in the urine—we have no certain mode of distinguishing between chronic cases of renal catarrh or simple inflammation, and chronic cases of deep-seated Bright's disease. We are thus left to gather from the general symptoms the information which the simple examination of the urine will not yield us, and to study the condition of the patient with respect to anæmia, dropsy, vital power, duration of the disease, etc., before coming to a conclusion.

Here we are reminded of the great principle which we endeavoured to inculcate in our introductory article on microscopical discovery and its use in practical medicine, that all special means of investigation, whether by the stethoscope, the test-tube, or the lens, are always by the good and safe physician held in due subordination to the great radical principles of our science, and thus only can they be considered as more than a delusive *ignis fatuus* by the bedside.—*Assoc. Med. Journ.* Aug. 5, 1853.

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33. *Ergot of Rye in some forms of Retention of Urine.* By M. Passot, of Lyons.—Ergot of rye has not only the property of exciting the uterine contractions in cases of inactivity of the uterus, but is also very efficacious in the retention of urine which is caused by atony and paralysis of the bladder. MM. Baudin and Payan of Aix were the first who endeavoured to demonstrate that this agent does not act on the uterus alone, but rather on the lower part of the spinal cord. They also speak very highly of it as well in the affection which we have now under consideration, as in weakness or paralysis of the lower extremities.

Drs. Kinsley, Canuto-Canuti, Sainmont de Rocroy, Allier of Marcigny, have also recorded cases which bear favourable testimony to the utility of ergot in paralysis of the bladder. I will now briefly mention some of them:—

Captain B., aged 60, suffering from dysuria, which had increased greatly during the last three months, until it suddenly changed to a complete retention, which necessitated the employment of the catheter several times a day. For two months a host of remedies were used without avail; there was not the slightest improvement. The prostate became enlarged, and the patient suffered much from the use of the catheter, which had to be passed twice every day.

Fifty centigrammes (about eight grains) of ergot of rye, infused in a cupful of boiling water, was administered three times a day. At the expiration of six hours, the patient passed a small quantity of urine, and required the use of the catheter only once in the day. Afterwards it was only passed once in the forty-eight hours, and after ten days the bladder was left to itself (*Kinsley's Journal des Com. Med. Chir.* March, 1844).

A lady, aged about 75, was affected with paralysis of the bladder, which for a long time required the use of the catheter. Ergot was prescribed in doses of fifteen decigrammes (about twenty-eight grains) in infusion. On the sixth day of this treatment, it was no longer necessary to pass the instrument, the patient being able to pass water spontaneously (*Canuto-Canuti, Bull. des Sciences Med. de Bologne*, 1845).

A man, named Rousseau, aged 58, of a nervous temperament, was, in consequence of a fit of passion, attacked with a complete inability to urinate. The bladder was obliged to be emptied by the catheter. The inertia of this organ continued in spite of cold injections into it, cold enemata, the application of ice, also a blister to the hypogastrium.

Strychnia applied, by means of ointment, as a dressing to the blister, also by frictions in the axillæ, on the following day produced cramps in the legs

and arms, and was presently accompanied by stiffness, so that it became necessary to discontinue the use of this remedy. There was not the slightest action on the bladder. It was at this stage that the author conceived the idea of giving ergot of rye. He prescribed six grammes (about ninety-two grains), coarsely powdered, to be put into a litre (about thirty-four ounces) of water, macerate for two days, filtered, and injected cold into the bladder. Seven minutes afterwards the patient experienced a desire to urinate, which, however, he could not then satisfy. The next morning the injection was again administered. Eight minutes after he had vesical tenesmus, and then spontaneous emission of urine. The injections were continued for some days. The cure was complete. (*Sainmont, Gazette des Hôpitaux*, 1848.)

In 1848, Dr. Allier, of Marcigny, sent a letter to the National Academy of Medicine, in which he gives as the result of his observations, that in only one out of fourteen cases ergot proved of no use.

I also am in possession of some cases which, in an incontestable manner, prove that ergot is capable of restoring the contractility of the bladder. The following is the most remarkable: In the month of July, 1846, I was consulted by M. H., aged 60, of a dry constitution and a very well-marked nervous temperament. M. H. admits having indulged both in venereal excesses and in the excesses of the table, and it is these that he blames for the vesical paralysis from which he is now suffering, and which requires the catheter twice a day; otherwise there is no symptom of organic alteration, no fever, no enlarged prostate. The canal of the urethra is free through its entire length, and the urine when drawn off is perfectly clear. After having experienced the uselessness of tincture of cantharides and blistering the hypogastrium, I used the following prescription:—

Freshly powdered ergot . . 2 grammes (30 grains).
Mucilage . . . . . 120 " (31 ounces).
A tablespoonful every half hour (shake the bottle).
Ergot of rye, powdered . . 15 decigrammes (23 grains).
Cocoa butter . . . . . a sufficiency.
To be made into two suppositories; one of them to be introduced night and morning.

On the same day, at the expiration of some hours, M. H. felt a desire to micturate. At my evening visit, I ordered a bath. The patient was scarcely in it before micturition took place spontaneously and with force. From this time to his death, M. H. has always passed water freely and without the assistance of the instrument. I should add that, to make certain of the cure, I continued the remedy for three or four days, but in a decreasing dose. M. H. died the 30th of January, 1848, of an acute pleuro-pneumonia, during the course of which not a single morbid symptom appeared in the bladder. It is therefore certain that ergot cures retention of urine which depends on pure and simple atony or paralysis of the bladder. But with regard to paralysis consecutive to apoplexy, or depending on other affections of the nervous centres, it is well known that they are unaffected by the remedy we are treating of.—*Dub. Med. Press*, June 29, 1853, from *Gaz. Med. de Lyon*.

34. *Croup and Tracheotomy.* By Dr. Karl Weber.—Two cases of croup are related. In the first case, the symptoms on the sixth day were desperate; tracheotomy was performed, and the treatment (calomel every three hours) was persevered in. The symptoms were immediately alleviated, and the wound had closed on the twentieth day. In the second case, croup came on after measles; tracheotomy was performed on the ninth day; the patient died on the forty-sixth day, and after death it was found that the canal of the trachea above the canula was completely closed. This was discovered first of all when, on the tenth day after the operation, the symptoms being exceedingly favourable, the canula was removed; immediate suffocation ensued, and the canula was reinserted. Farther operative proceedings were contemplated, when the child suddenly died, not from asphyxia, but from an undetermined cause. The larynx and trachea were removed, but no farther examination of the body was permitted.

The larynx, examined and described by Henle, was healthy till below the lower vocal cords, where there was complete closure by means of a vascular, firm, white substance, torn with difficulty, and constituted partly by uniting tissue, and partly by a similar forming structure. The mucous membrane could not be found. The fistulous opening formed by the canula was clothed with smooth plicated membrane, resembling a mucous membrane, and covered with flat nucleated epithelium cells 0.008‴ in diameter). The thyroid and cricoid cartilages were peculiarly changed, but their condition can hardly be understood without the figure, which is given in the original.

"The thyroid normally formed on the upper border, and on the under border on the left side, shows on the left, near the middle line, an irregular and rough cartilaginous prolongation, which arises out of and is articulated with the rudimentary cartilaginous ring. On the right side, the under border of the thyroid is obliquely cut off, and bears, instead of the lower horn, a broad articulating surface, with which an oblique four-sided cartilaginous piece is movably joined, but not by an articulation."

The cricoid was formed by four pieces, two of which were perhaps divided by the operation, and the forms of which are given in the plate, but can hardly be described. Henle considers this condition as an original malformation, but thinks that it gave rise to the obliteration *after* the operation.

To this account, Weber adds some general considerations on croup and tracheotomy. He believes that in true croup there is always exudation in the larynx.

The Diagnosis.—The only disease with which croup can be confounded is the laryngismus stridulus, or false croup. This is, however, distinguished by the want of precursory symptoms, by the suddenness of the attacks, which frequently occur in the night, and by the remissions. True croup commences gradually, and the severe attacks never come on till the illness has lasted some little time; there are no true remissions or intermissions, as in laryngismus; in which disease the child, after a severe attack at night, may appear the next day perfectly well. The voice is another distinction, as the natural tone is regained after the attack of laryngismus, but never in croup. True croup never relapses; laryngeal cramp often. Weber believes croup to be probably contagious, and to be epidemic.

The Prognosis.—Jurine states that 25 of 28 were cured; Boudet, on the contrary, from the records of the Hôpital des Enfans Malades, states that 57 children died out of 63. Guersant saw 80 die out of 100. Weber believes these latter statistics to be the correct ones, and that the more favourable result obtained by Jurine and others arose from the inclusion of cases of laryngismus, which is a rarely fatal disease, but of the mortality of which there are no certain statistics.

The Treatment.—Emetics are used as *abortive* treatment, but, Weber thinks, with little success; the local applications of irritating substances, such as nitrate of silver, is much more efficacious, and Weber speaks highly of its use. Blisters are discountenanced; leeches are considered to be of only very moderate utility, or to be even hurtful, by reducing the strength without having the least effect on the exudation of the pseudo-membrane. General antiphlogistic treatment is said to be useless; but calomel is spoken of as being extremely useful, both given internally and used as inunction.

Tracheotomy is strongly recommended, and the statistics of Trousseau are relied upon, which give the extraordinary number of 222 operations and 127 cures. Trousseau operates early, and introduces a solution of nitrate of silver (10 grains to ℥j of water) into the trachea. This appears to be an important modification, and to have an immense effect in loosening the membranous exudation.—*Brit. and For. Med.-Chir. Review*, July, 1853, from *Henle's Zeitschrift.*

35. *Topical Treatment of Hooping-Cough.*—The number of the *Association Medical Journal* for 26th of August last, contains an interesting paper on this subject, by Dr. Eben Watson, Professor of the Institutes of Medicine in the Andersonian University, Glasgow.

Six years ago, he states that he began to use topical applications to the pharyngo-laryngeal membrane in cases of hooping-cough, in hopes of mitigating

the paroxysmal spasms of the glottis, which forms so important a feature in the disease; and being well satisfied with the results of the treatment, he published an account of it, with his theory of the disease, in the *Edinburgh Monthly Journal of Medical Science*, for 1849.

"All experience," he says, "bears me out in stating that the first and second stages of hooping-cough are marked by catarrhal inflammation of the larynx, trachea, and bronchi. In severe cases, this inflammation involves the whole thickness of the mucous membrane, and may even spread to the minute air-tubes, or to the pulmonary cells, before the spasmodic stage has well commenced. More or less speedily, however, the pharyngeal and bronchial branches of the vagi nerves become involved in the morbid action. It is a common opinion that this nerve becomes inflamed; but we are not warranted by the results of *post-mortem* inspections, nor by any data of 'living pathology,' in assuming that opinion as proved. At all events, a small amount of inflammatory action, such as may be called irritation, is sufficient to account for the symptoms of the second stage, in which the hoops occur. This feature in the pathology of hooping-cough is interestingly proved by Romberg (*Diseases of the Nervous System*, Sydenham Society's edition, vol. i. p. 349), by experiments on the lower animals, performed by himself and others. But probably the cases which happened to Sir Astley Cooper and to M. Gendrin, both shortly stated by Romberg in the passage referred to, may be still more convincing to most minds. They were cases of inflammation, the one of the parotid gland, and the other of an aneurismal sac, in the vicinity of the pneumogastric trunk, and occasioning paroxysms of cough and dyspnœa. To these we might add the cases of small bodies, such as fish-bones, etc., sticking about the pharynx, and causing similar symptoms, many of which are now on record.

"It would seem, then, to be satisfactorily proved that the morbific agent in cases of hooping-cough commences its operation by producing inflammation of the pharyngeal and bronchial mucous membrane; and secondarily, irritation of the pneumogastric nerves. Now, it is obvious that such cases only differ from ordinary bronchitis so far as their mechanism is concerned, in the amount of irritation produced in the pneumogastric nerves. In ordinary bronchitis, this is nothing more than what will suffice to produce those expulsory efforts in which coughing consists; while in hooping-cough it is so great as to excite again and again a spasmodic closure of the glottis, which at once prevents the expulsion of the offending mucus, and so impedes inspiration as to occasion the well-known crowing sound that accompanies the act. In this stage, the stomach likewise becomes affected, and vomiting is a common termination of a fit of coughing; but this is easily explicable on the acknowledged truths of physiology—the irritation of any one set of branches, or of the trunk of a nerve, being capable of producing action in organs supplied by other nerves having a common centre, and, *à fortiori*, by other branches of the same nerve-trunk.

"Two questions are yet necessary to be considered, in order to complete a theory of hooping-cough. These are: first, In what relation does it stand to its so-called complications? and second, What is the nature of the agency which starts the train of morbid effects of which we have been treating?

"There would be little need of remark on the first of these points, were it not that almost all its attendant symptoms have been considered as part of the disease, and not as complications at all. It is indeed difficult to draw the line of demarcation between the bronchial inflammation which is essential, and that which is accidental to the hooping-cough; but, as we have certain well-marked cases of the latter, in which the former state is either absent, or confined to the pharyngo-laryngeal membrane, I think it fair to consider all inflammatory action beyond that as complicating the primary disease. The same, in my opinion, is true of inflammation of the air-cells, and still more so of those complications which cannot be considered as extensions of the primary effect of the morbific agent. I refer to cerebral and abdominal complications, to dilated bronchi or ruptured vessels, all which may be traced, more or less directly, to the violence of the paroxysms of dyspnœa.

"On the second point, I have only to remark that the almost invariable occurrence of hooping-cough once in the life of every person exposed to its in-

fluence, its exhausting his susceptibility to suffer from it in the first attack, and its undoubted communicability from one patient to another, in the same manner as other diseases which are usually considered infectious or contagious, warrant the common belief that the disease is due to the operation of a morbid poison in the blood, the effects of which are manifested in the manner formerly explained. This poison seems to circulate in the system for a time before producing decided symptoms of the disease. About eight days usually elapse, during which the patient is affected with fever and other symptoms of common catarrh, before the stage of hooping commences at all. But as soon as the spasmodic stage is fairly established, all the symptoms of general disorder in most cases subside; and unless some complication occur, the disease remains, during its future course, a local affection of the larynx and bronchi, without any evidence of a morbid condition of the circulating fluid. I think it more than likely, then, that the poison of hooping-cough is generally eliminated or rendered innocuous by the time that the spasmodic stage of the disease has reached its acme."

"Not long ago," Dr. Watson states, "I treated two children in the same family, who were attacked at the same time by the hooping-cough. The one was a baby at the breast, and was very severely affected, insomuch that his life was for a time in danger. I began the topical treatment about the middle of the spasmodic stage; and in eight days he had ceased to hoop, and in a short time to cough at all. His sister, the other patient, was about two years and a half old, and apparently much less severely affected with the hooping-cough; but she had just recovered from an attack of croup when she was seized with that disease, and at first her cough had much of the croupy sound. I treated her *pari passu* with her brother; and yet her disease continued two weeks longer than his.

"On the other hand, I have known of cases irregularly treated by the topical method, in which the inflammatory element was subdued, and in which the hooping continued, though in a mild degree, for a considerable time longer. But the most convincing proof that the solution of caustic has a decided and sedative influence on the spasmodic element of hooping-cough, or, in other words, on the excited state of the extreme branches of the vagi nerves in the throat and larynx, is the fact, which my experience demonstrates, that the topical plan is most speedily effectual in the last stage of the disease, when all the previous symptoms of inflammation have disappeared, and the hoop alone remains. I have seen a number of such cases, in which the children seemed worn out by the disease, and in which general remedies had been long but vainly employed. In all these cases, the very first touch has a markedly beneficial effect; and its repetition for a comparatively few times suffices to perfect a cure.

"When, however, we remember how much the nerves of any part are implicated in its inflammation, it may be, after all, that the affection of the pharyngeal and bronchial nerves, which occasions the spasmodic paroxysms of hooping-cough, is of the same nature; and that we are warranted in agreeing in the main with M. Joubert, that the topical application of solution of caustic operates solely in subduing inflammation. Since, then, that morbid state exists in the bronchial mucous membrane as constantly in cases of spasmodic asthma[1] as in those of hooping-cough, the rationale of the topical remedy becomes reduced to the counteraction of only one morbid state; and we may call it an antiphlogistic sedative of the pharyngo-laryngeal mucous membrane. But this, in my opinion, can only be said with truth of the less sthenic degrees of inflammation, as I have explained in another paper (*Dublin Quarterly Journal of Medicine*, Aug. 1852). The practical rule, however, remains importantly true, that the remedy should be continued so long as the slightest hoop is heard, although all the ordinary symptoms of inflammatory action, such as bronchitic râles or bulky expectoration, have been subdued for some time. If this rule is not strictly attended to, a relapse will ere long be the consequence; and the treatment will

[1] I have recommended the topical treatment of the larynx in cases of spasmodic asthma, in another paper. See *Glasgow Medical Journal*, No. I. p. 37; and the "Periscopic Review" of the *Association Medical Journal*, No. XXI. p. 462.

have to be continued nearly as long as if it had never been commenced at all. But if the disease be thus thoroughly subdued in its first attack, no recurrence of it need be apprehended during the patient's life. I make this statement in full knowledge of the succeeding history of all the cases in which I have employed the topical treatment; and many of them have been again freely exposed to infection.

"Regarding the mode of prosecuting this topical treatment, I may now be allowed to make a few remarks, suggested by the statements or objections of other physicians, which I have either read or heard expressed in conversation.

"1. The most convenient instrument for applying any solution to the throat or larynx, is the sponge and whalebone. The forceps suggested by Dr. Cotton, and which has one limb covered with sponge, is needlessly complicated, and much more apt to injure the delicate glottis. Nor is it fitted to obviate the supposed danger of the detachment of the sponge in the windpipe of the patient, which gave rise to the idea of Dr. Cotton's instrument at the first. It is, indeed, quite a mistake to think that there is any strain upon the sponge, when once it is within the larynx. That organ cannot contract so as to detain the sponge; and it must have been very carelessly fixed on the whalebone, if the glottis could detach it during its withdrawal. Indeed, a skilful operator will seldom feel the contraction of the glottis at all; for, as the patient inspires immediately on the introduction of the sponge into the larynx, the muscular valve becomes relaxed, and permits its easy withdrawal. The strong contraction which I have myself often felt, and which I have known many to mistake for that of the glottis, is in reality a proof that the sponge is not in the windpipe at all, but is caught by the pharynx immediately behind it. And this gives colour to the amusing story of the musician, whose larynx was being touched by a learned physician, who, on withdrawing the whalebone, found it destitute of the sponge. The physician was in great alarm; but the patient neither choked nor died. Ere long, however, he vomited the sponge from his stomach. It had been caught by the pharynx, and swallowed.

"If the instrument is at all well made, this could never happen, except from one circumstance, which ought to be known by every person who attempts the topical treatment of the larynx, especially among children. It is, that the caustic solution in a short time destroys the thread with which the sponge is fastened to the whalebone. The simple and certain way, then, of avoiding any such accident as that to which I have been referring, is to have the sponge frequently renewed.

"2. It would appear, from the following passage, that M. Joubert supposes me to have recommended the indiscriminate employment of a solution of the nitrate of silver of *uniform* strength: 'Il n'y a pas une grande différence entre le procédé opératoire suivi par M. Joubert et celui de M. Watson; seulement le premier emploie des solutions concentrées à des degrés différents, depuis 1 gramme jusqu'à 4 grammes de nitrate d'argent pour 30 grammes d'eau distillée, et qu'il désigne par les numéros 1, 2, 3, 4.' (*Bulletin de Thérapeutique*, tom. xliii. p. 41.) Now, saving the designation of the solutions by the numerals 1, 2, 3, and 4, which is doubtless a convenient plan when employing them on a large scale, there is no novelty in this practice of M. Joubert. For, in my original paper on the hooping-cough (*Edinburgh Monthly Journal*, Dec. 1849), I distinctly state that 'the ordinary strength of the solution which I have used in the treatment of hooping-cough, is gr. xv of the nitrate of silver to the ounce of distilled water; but, in some cases, I have with advantage increased it to ℈ij of the salt in the ounce of water.' From an enlarged experience of the treatment in question, I can now be still more precise; for I have found that in the early stage of the disease, and just in proportion to the intensity of the inflammatory process which may be present, so ought the solution employed to be proportionally *weak*. Afterwards, when the nervous symptoms predominate, the solution may with advantage be strengthened; but it is impossible to lay down rules that will universally apply to different cases, or even to the same case on different days. This must be left to the judgment of the practitioner; and he will find it quite necessary, for the favourable progress of the case, that

he should use his discretion in regard to it, as much as to the administration of emetics or laxatives.

"3. Dr. Scott Alison has lately drawn the attention of the profession to the application of several other substances to the larynx; and perhaps some of them, such as solution of morphia, may be occasionally used with advantage in cases of hooping-cough. I merely make this as a suggestion; but I have, from some little experience of its effects, a better-founded opinion of another substance, which has not hitherto, I believe, been used as a topical application to the larynx. I refer to the hyposulphite of soda and silver, to which my attention was first directed by a notice in the *Medico-Chirurgical Review* (No. XXII. p. 567). This salt has a very soothing effect on the larynx, when its lining membrane is irritated by a vitiated, and, as is generally the case, an acid secretion; and I entertain the hope that its solution will form a useful topical application in the first stages of hooping-cough. I intend, however, in due time, to lay before the profession a fuller account of a trial, which I am at present making, of the value of this salt in laryngeal cases.

"4. In some cases of hooping-cough, an obstacle is presented to the topical treatment, by a state of matters which is, in other respects, by no means unfavourable to the patient. I mean the irritability of his stomach, which makes the slightest touch of the sponge in the throat the signal for violent retching and vomiting, if the stomach be full. I very often, therefore, find it necessary to prescribe for this symptom frequent small doses of heavy magnesia, combined sometimes with a few grains of the trisnitrate of bismuth. Such simple treatment seldom fails to mitigate the vomiting sufficiently to admit of the continuance of the topical applications.

"5. These applications should be renewed at least every second day; but, if their commencement has been delayed till the disease is at its height, or if the hoops are very violent from the first, they should be repeated more frequently; and, for the reason stated above, the time of making them should be selected so as to have the stomach empty; and the patient should not be allowed to eat for an hour or two afterwards, else the feeling of rawness in the throat, which follows each application of the remedy, will be unnecessarily increased, and occasionally hooping and vomiting will be induced.

"6. In making these applications of solution of caustic to the throats of children, everything in the shape of a formidable spatula should be dispensed with, and either a common teaspoon, or the index-finger of the left hand, should be used. In all cases in which it is important to pass the sponge into the larynx, I consider it quite necessary to introduce the finger into the patient's mouth, and to touch with it the tip of the epiglottis, along the surface of which the instrument may be glided down with certainty to the rima glottidis. And if this proceeding be performed at once with firmness, few children either can or will resist it by struggling, or by biting the operator's finger; but much patience and tact is sometimes necessary to school them to submission in the beginning of the treatment. After a few times, no more trouble is experienced.

"Pursued in this way, with these precautions, and with a prudent attention to the diet and regimen of the patients, the topical treatment of hooping-cough wonderfully shortens the disease, and renders it nearly as mild as ordinary catarrh. Complications seldom occur, and thus the disease is stripped of its most formidable characteristic. Hence it is that I can give the following favourable numerical account of the results of the treatment in question:—

	Cured within a fortnight.	Cured in 3-4 weeeks.	Resisted treatment.	Total.
M. Joubert's cases	40	20	8	68
Cases treated throughout by myself . .	46	20	..	66
	86	40	8	134

"In contrast with this table, I subjoin another, of the ordinary duration of the disease when treated in the usual manner, as stated by a few of our best and most recent authorities:—

"Dr. R. Williams[1] states it at from 2 to 4 months, or more than a year.
Dr. Copland[2] states it at from 32 days to 5 months, or more.
Dr. C. J. B. Williams[3] states it at from 6 to 10 weeks, or more.
Dr. Walshe[4] states it at from 8 to 13 weeks, or more.
Dr. West[5] states it at from 8 to 14 weeks, or more.
MM. Barthez et Rilliet[6] state it at from 1 to 3 months, or more.
Average of all the statements, from 1½ to 3½ months."

36. *Nature and Treatment of Hoarseness.*—The following is an abstract of the views of M. Trousseau on the above subject, as given in the *Journal de Médecine et de Chirurgie Pratiques* for last February:—

Hoarseness almost always depends on hyperæmia of the laryngeal mucous membrane; but, in order to cure this condition, not only must it be attacked in its seat, but the circumstances in which it has been produced must be ascertained—whether it is a continuation of inflammation of the pharynx, mouth, or nasal fossæ, in which case it may be often sufficient to apply remedies to these parts.

Among the inflammatory affections of the pharynx which are most frequently propagated to the larynx is chronic or follicular pharyngitis; the characters of which are enlargement of the mucous follicles, slight œdema and redness of the velum palati, with a certain amount of elongation of the uvula. This form is almost always of rheumatic origin, and appears at the end of an attack of apyrexial rheumatism which has lasted three weeks or a month. It recurs a great number of times, and leaves its effects on the pharynx in the form of hypertrophy of the mucous follicles. Generally, however, the inflammation of the pharynx itself proceeds from the mouth or the nasal fossæ. Thus, just as in the child the cutting of a tooth will produce cough by extension to the bronchi of the inflammation of the gums, carious teeth will produce an analogous affection in the adult, by producing a change in the voice, which is only removed by the extraction of the diseased tooth. Cases of this kind frequently came under the notice of M. Trousseau. A distinguished *cantatrice* lost her voice for two years, and recovered it only after two wisdom-teeth had been extracted.

There is also an eczematous affection of the nasal fossæ, which is easily propagated to the pharynx, the Eustachian tubes, and the larynx. There are also persons who are constantly the subjects of nasal catarrh; and in these, the catarrh is propagated to the pharynx and larynx. The vocal cords, softened by the thickening of the mucous membrane, then cease to vibrate, and mucus is deposited in the ventricles of the larynx.

Treatment.—If the pharynx is the primary seat of the disease, M. Trousseau employs strong stimulants to that region. The best of these is a solution of one part of nitrate of silver in three of water. This is applied daily for a week, by means of a brush, to the arches of the palate, to the palate itself, and to the tonsils. It is afterwards repeated three times, twice, and once a week; and once a fortnight for some months. This treatment should be applied more perseveringly in proportion as the hoarseness is of old date, and should be continued after the voice has returned, without, however, paying regard to the hypertrophy of the follicles, which sometimes lasts for an indefinite period after chronic pharyngitis. If, from any reason, this mode of treatment cannot be adopted, the patient should be taught to accustom himself to touch the pharynx with the index-fingers—the right finger for the right side, and the left for the left side. When this can be done, the patient will be able to apply with his fingers a powder composed of one-fourteenth of a grain of white precipitate and ten drachms of powdered sugar. If this remedy, which is very effectual, fail, alum gargles may be used. Many singers use the gargle of Bennati, an old Italian physician, half an hour before entering on the stage, when they are

[1] Williams on Morbid Poisons, vol. i. p. 311.
[2] Dictionary of Medicine, pp. 236, 237.
[3] Library of Medicine, vol. iii. p. 94.
[4] Walshe on Diseases of the Chest, pp. 418, 419.
[5] Lectures on Diseases of Children, p. 279.
[6] Traité Pratique et Clinique des Maladies des Enfants, 2me edition, tom. ii. p. 624.

labouring under hoarseness from subacute inflammation. The following formula is given by M. Trousseau: Alum, from 10 to 30 parts; water, 500 parts; honey or mulberry syrup, 100 parts. Whatever gargle is employed should be used as hot as it can be borne; cold gargles are useless.

In a very large number of cases, the pharyngeal affection is of an herpetic nature. In a person, for instance, who has had eczema of the nose, the disease may have produced union of the nasal fossæ with the pharynx and the Eustachian tubes; thus giving rise to obliteration. If eczema of the nose is still present, and coryza appears under the influence of cold or after meals, the hoarseness must be treated by applications to the nasal fossæ. One part of sulphuret of potassium is dissolved in one hundred parts of water, and a teaspoonful is put into some very hot water, and forcibly inhaled by the patient for some minutes, three times a day. The same solution, in a larger proportion to the water, is to be used at the same time as a gargle.

In cases of this nature, sulphureous waters also are very useful, taken two or three times a day. The patients may also be made to take into the nose small pinches of white or red precipitate.

Some changes in the voice are only to be benefited by direct treatment, viz. inhalation of arsenic and cauterization with a strong solution of nitrate of silver. Cauterization is sometimes difficult; and in this case, the use of arsenicated cigarettes is more simple, and not less efficacious. The cigarettes are made with one part of arsenite of potash to twenty-five of water; in this, some filtering paper is dipped, then rolled into cigarettes, and dried. These must be smoked slowly—eight or ten inspirations each time, three times a day. The metallic arsenic is condensed on the larynx.—*Assoc. Med. Journ.* July 8, 1853.

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37. *Veratria in Acute Articular Rheumatism.*—According to the *Union Médicale* for April 2, MM. Trousseau and Piedagnel, of Paris, have for some time employed veratria in the treatment of acute rheumatism. Its introduction appears to be due to M. Piedagnel, who states that, from the observation of numerous cases both in hospital and private practice, he finds that rheumatism is in this way generally cured in seven or eight days. He administers the veratrin in the form of pills, each containing five *milligrammes* (about 1-13th of a grain). Of these, one is taken on the first day, two on the second, three on the third, &c., up to the sixth day; it is rarely necessary to give seven pills. When the general and local symptoms have abated, which generally takes place on the fourth, fifth, or sixth day, the dose is maintained for two or three days at the point at which it had arrived, and is then gradually decreased daily, as the symptoms disappear; and when, after four, five, or six days of convalescence, the cure seems perfect, the medicine is discontinued.

If, during the administration of this medicine, colic, diarrhœa, or vomiting appear, indicating intolerance of the medicine on the part of the gastro-intestinal mucous membrane, no larger dose must be given than can be taken without producing this effect.

A great recommendation of this medicine, according to M. Trousseau, is the lowness of its price, especially as compared with that of the disulphate of quinia.

The following is an outline of some cases treated on this plan by M. Trousseau, in the Hôtel-Dieu.

Case I. M., aged 17, had acute articular rheumatism, with endocarditis. All the joints of the upper and lower limbs were affected. Veratrin was administered, and the disease began to be subdued in three days. She left the hospital four weeks after admission; having remained there fifteen days after the disappearance of all symptoms, in order that the permanency of the cure might be established.

Case II. B., aged, 37, a day-labourer, had had rheumatism several times. He was admitted on March 12, 1853, with acute articular rheumatism affecting most of the joints. The heart was unaffected. He took the veratrin in the manner described above until March 22, when M. Trousseau discontinued it, in consequence of the presence of gastro-intestinal disturbance. The next day, the rheumatism, which had nearly left him, began to return in several of the

joints. M. Trousseau then ordered four pills to be taken; after which he rapidly recovered.

Two other instances are related of acute articular rheumatism; in these, veratrin was employed with similarly favourable results.—*Assoc. Med. Journ.* Sept. 2, 1853.

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38. *Electricity in restoring Animation after its Extinction by Chloroform.*—M. Jobert de Lamballe read a paper on this subject before the Academy of Sciences. After administering chloroform to several animals until it produced apparent death, he applied the galvanic pile, and, by operating with properly graduated shocks, succeeded in restoring animation. But, in some instances, such a length of time elapsed before recovery that fears of a fatal result were entertained, which, however, were dissipated by perseverance in the application of the battery.—*Lancet*, Sept. 10, 1853.

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39. *Employment of General Frictions in Chlorosis.* By M. Aran.—This disease is almost exclusively treated by iron, only some practitioners even adding to this good diet, exercise, and insolation. By others, iron is regarded as necessary for its cure, as is quinia in ague, or mercury in syphilis; while not only is it not indispensable, but in certain cases it entirely fails, exerting no influence upon the affection, and, if persevered in, inducing congestion of the viscera, especially of the lungs, which may give rise to hæmoptysis. In a much larger number of cases, ferruginous preparations are well supported at first, and produce marked amelioration; but after awhile such amelioration becomes stationary, and, however much the dose may be increased, the patient is not prevented from falling back into her former state. Such patients are sometimes seen, although gorged with iron for months or years, still exhibiting all the characters of chlorosis. Dr. Aran has found that, by the employment of *dry and stimulant frictions*, aided by good regimen, and in some cases by wine *lavements*, these obstinate cases may be very satisfactorily treated, when iron has failed. Either flannel or a brush may be used, and occasionally a stimulating fluid, such as spirit of camphor, or some ammoniacal preparation, may be added, so as to induce rubefaction. The frictions should be continued for five or ten minutes, every night and morning, being chiefly directed along the back and limbs. In a few days, a marked modification of all the functions is produced. The patient becomes more lively and alert, her countenance acquires colour, and appetite, flesh, and strength begin to return, and that although no internal medicines whatever have been employed. In some cases, in which progress is not so rapid, vinous enemata are of great service.—*Brit. and For. Med.-Chir. Review*, July, 1853, from *Bull. de Thérapeutique*, tom. xliii.

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40. *Use of Chloroform in Hooping-Cough.*—Dr. Fleetwood Churchill, in a letter to Prof. Simpson, published in the *Monthly Journal of Medical Science* (Aug. 1853), alludes to his having mentioned, in his work on Diseases of Children, his having tried the inhalation of sulphuric ether in hooping-cough, with great benefit, in about a dozen cases, and states that he has since tried chloroform with equal benefit. But he always found, he remarks, "two obstacles to its full and fair administration to young children. In the first place, you cannot get them to give notice of the approach of a cough, so as to enable you to have the chloroform in readiness before the paroxysm commences; and when the paroxysm has commenced, as it consists of eight or ten expirations to one inspiration, the chloroform will have evaporated before it has been fairly inhaled. And secondly, young children have such a horror of anything near their mouths during the cough, that they will resist your trying the chloroform as much as possible, until they themselves have felt its power in relieving the cough. Owing to these two causes, and perhaps also to a want of clever management on the part of the mother, we shall find it fail altogether occasionally, and in other cases only partially succeed; but when it is fairly tried, as I have already remarked, its use is most beneficial.

"I have all along felt very anxious to try it in young persons of twelve or fourteen years old and upwards, because with them we can avoid the two diffi-

culties I have mentioned; but it was not until this year that I had an opportunity. Four cases have come under my care, and the results are as follows:—

"Case I. Miss D., æt. 16, had had hooping-cough a month, when I prescribed chloroform. There was no complication, but the hooping was frequent, especially during the night. She was directed to have the chloroform in readiness, and to use it with each paroxysm; and she assures me that in two days the hoop ceased. The cough lasted a few days longer, but it was slight, and not in kinks.

"Case II. Miss A., æt. 20, had been ill with hooping-cough for about three weeks, when I prescribed chloroform. The cough was not very frequent, and there was no complication. Two days sufficed with her also to relieve her of the hoop; and the slight cough which remained subsided after a week or ten days.

"In these two cases, the effect seemed quite magical; both had the disease well marked, and the families of both were prepared for a disease of two or three months' duration, as was the case with these other children.

"Case III. Miss B., æt. 18, took the complaint from her brother, whom I was attending, and I therefore had an opportunity of giving chloroform from the commencement. She did not hoop any time she coughed; but she was directed to use the chloroform whenever she felt the tickling in the larynx, without waiting for a cough. By doing so, she found that she could postpone the cough indefinitely; and if it came on suddenly, the use of the chloroform instantly suspended it. About three weeks elapsed, before the tendency to cough and the use of chloroform ceased; but during that time she lost neither appetite nor flesh. She slept well, was in good spirits, and able to follow her usual occupation. She went to the country quite well.

"Case IV. Master B., æt. 16, the brother of the last case, when I first saw him, had the disease most severely. The kinks were violent and prolonged, the efforts to inspire and the hoop excessive; it really seemed as if he would be choked, or that something would give way. He had lost appetite, sleep, and spirits, although the disease had not lasted three weeks when I saw him. I tried chloroform with him, and it at once reduced the number of paroxysms one-half, but without mitigating them when they did occur. He took the chloroform very freely; and as he was not readily influenced by it, the quantity seemed to give him a headache, and he begged to be allowed to suspend its use. I the more willingly agreed to this, as he had a severe attack of diarrhœa. I therefore substituted two drops of prussic acid (Dub. Pharm.) with two or three of black drops three times a day. The improvement, begun under chloroform, continued under this treatment, and at the end of five weeks from the beginning of the disease the cough had ceased, and he had regained rest, spirits, and flesh.

"Although this last case cannot be regarded as cured by chloroform, the paroxysms were first diminished by it, and I have no doubt that it contributed to the beneficial effect of the prussic acid. The first three cases are, I think, very conclusive as to its value; and, if farther experience confirms them, we shall possess a means of cutting short this disease in adults, who, when attacked, suffer so severely.

"One word as to the mode of exhibition. In order to avoid the possibility of an overdose, I have never given the chloroform on a handkerchief, or by means of an inhaler, but have directed the mother (in the case of young children) or the patient to spill a little, say about thirty drops, in the palm of the hand, and hold this before the mouth and nose, sufficiently near to inhale it fully, but not so close as to exclude a portion of atmospheric air. The best time to begin is just as the patient feels the irritation in the chest increasing to a cough, but, if possible, before the cough commences; and the inhalation should be repeated with each return of irritation, unless headache be produced."

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41. *On Primary and Secondary Fibrinous Deposits.* By Henry Lee, Esq. (Proceedings of the Royal Medical and Chirurgical Society, June 7, 1853.)—Fibrinous effusions into internal organs have not been distinguished, on the one hand, from effusions of lymph, and, on the other, from tubercular deposits; and the author relates cases where the disease was noticed both in the veins and in

the substance of the lungs. The separation of fibrin from the other portions of the blood answers many useful purposes in the processes of healthy reparation after injuries. When a bloodvessel is divided, one important element in restoration is the separation of the fibrin, which agglutinates the divided edges. Fibrin also furnishes a capsule to foreign bodies introduced into the circulating system. The author then proceeded to relate the particulars of a case of fatal hemorrhage from the umbilicus, in consequence of the non-closure of the umbilical vein and one hypogastric artery. The dissection was minutely described, and he compared the want of power here displayed with the phenomena witnessed in certain cases of erysipelas and diffuse cellular inflammation. When once the morbid deposition has been communicated to the blood, it matters not in what part of the vascular system the deposit occurs, the essential characters and subsequent changes which it undergoes will be found strictly analogous. The author proceeded to illustrate the effects produced upon the blood by the admixture of different diseased secretions, by relating the particulars of some experiments upon the recently-drawn blood of the horse. He divides deposits of fibrin into primary and secondary, and draws these general conclusions: 1. That the blood may, under certain circumstances, deposit from itself a fibro-albuminous element, either in some of the larger vessels of the body, or in the structure of internal organs. 2. That the process is not of an inflammatory character, and may occur either with or without the intervention of a membrane. 3. That the changes in the blood which immediately precede such an action may be caused by the admixture of vitiated secretions. 4. That the deposit, when formed, is capable of undergoing various changes, which issue in the formation of purulent-looking fluid, and is capable, during these changes, of communicating irritation to surrounding fluids.

42. *Ovarian Cyst containing Brain.* By Henry Grey, Esq. (Proceedings of the Royal Medical and Chirurgical Society.)—The attention of morbid anatomists had been directed for many years to the structure of ovarian cysts and their contents, and especially to those which apparently contained fœtal remains, with a view, if possible, of determining their origin and mode of growth. It was the doubts that still hung over this subject, that induced the author to believe that the present case might prove of interest, and that at some future time it might aid in explaining the law that governed the singular developement and mode of growth of these tumours. The patient was a female, aged twenty-eight, who died in St. George's Hospital of typhus fever. A full record of the *post-mortem* appearances was given, but the contents of the pelvis relate more especially to the present subject. The vagina was healthy; the uterus was somewhat larger than natural, and its muscular wall thickened. The membrane lining its cavity was covered throughout its entire extent with a highly vascular villous membrane, resembling the decidua. The round ligaments were both healthy; the right Fallopian tube more dilatable than natural, and contained a thin bloody fluid; the right ovary was healthy; the left Fallopian tube was healthy. The left ovary was occupied as a large cyst, the size of an orange; the lining membrane of the interior of the cyst was vascular; its wall was composed of an external peritoneal layer, an inner, smooth, shining coat, devoid of epithelium. The cavity of the cyst contained a few short, light-brown hairs. The lower half of the tumour consisted of a second cyst, containing some yellowish, white, purulent-looking fluid, with some granular fatty matter of the consistence of honey, scaly epithelium, and fine hairs of a brownish colour being intermixed with it. The fatty matter was found to be fluid at less than the natural temperature of the body. The hair, on being separated from the matter, was found to be attached to the wall of the cyst by distinct bulbs. A portion of the wall at the lower part of the cyst presented an appearance similar to the surface of the scalp; there was a thick layer of scaly epithelium mixed with fat covering the surface; numerous sebaceous glands were indented into this layer, and a canine tooth projected from the skin, fully formed; it was implanted into a fragment of bone, covered with periosteum. There was a third cyst situated near the fragment of bone, about the size of a walnut, the wall of which was delicately vascular, forming meshes resembling the pia mater; the contents of

this cyst presented all the characters of brain. On microscopic examination, the ordinary elements of nervous matter were seen, consisting of varicose nerve-tubules, intermixed with the elementary component parts of gray matter; nuclei, and nucleated vesicles containing granules. There was also a fifth cyst, the contents of which were much less like brain matter than the contiguous one. So far as the author had been able to ascertain, he believed that nervous matter had not been previously described as forming a portion of the contents of these ovarian cysts.—*Med. Times and Gaz.* July 30, 1853.

43. *The Tympanitic Sound produced by Percussion of the Lung, when partially condensed.*—Dr. W. O. MARKHAM states that two *post-mortem* observations have lately fallen under his notice, which positively demonstrate that the percussion sound of a partially condensed lung is clearer than that of a healthy lung.

"In one case, the left lung was found reduced by the pressure of pleuritic effusion to about one-fourth or fifth of its natural size; its lower lobe being *completely*, and its upper lobe *partially*, consolidated.

"In the other case, the *partial* consolidation was general throughout both lungs; it was caused by the effusion within them of the products of inflammation, excited by the rapid and extensive deposition of miliary tubercles. Now, when in these two cases the lungs, thus differently circumstanced as regards the nature of the disease affecting them, were removed from the bodies after death, placed side by side, and percussed, it was observed that the *partially* condensed upper lobe of the pleuritic case, and every part of the lungs invaded by inflammation in the other—especially the posterior parts, where the consolidation was most advanced, and the lungs contained the least amount of air—yielded a remarkably clear percussion sound, which in both cases, as far as the ear could judge, was exactly alike in its characters; the sound was that to which, for want of a better, I have affixed the term 'hollow,' in the paper above referred to; it is clear, high-pitched, empty, of a tympanitic character, and somewhat metallic; the vibrations of sound producing it appear superficially distributed, ceasing quickly, and not passing deeply. Perhaps it would be most convenient to designate the sound as 'tympanitic,' for I believe that this word is rarely in practice used to indicate merely a drum-like sound, as its origin would require; the term 'hollow' is objectionable, and for an evident reason.[1]

"The left side of the thorax of the patient, attacked by the pleuritic effusion, yielded, two days before her death, a completely dull percussion sound at every part; and the heart was found beating to the right of the sternum. To relieve the great difficulty of breathing induced by this copious and sudden effusion of serum, a very fine trocar was introduced into the pleural cavity, and about twenty ounces of fluid withdrawn therefrom, by the aid of an exhausting syringe. Great care was taken that no air entered into the pleura, and that none did I am satisfied, having assisted at the operation. Temporary relief was thus afforded the patient; and now, immediately after the operation, on percussion beneath the clavicle, we found, instead of the completely dull percussion sound observed previously, a remarkably loud, clear, tympanitic sound, so marked, indeed, as to lead an observer to suppose that air had found its way into the chest. That there was no necessity for our thus calling in the presence of air to give reason for the sound, we had the demonstrative proof after the patient's death, when the body was examined. No air escaped from the pleura, but, on puncturing the left thorax, a large amount of fluid gushed forth; and, when a certain amount had escaped, the partially condensed lung floated forwards against the upper and anterior walls, and its percussion now, both within and when removed from the thorax, yielded a character of percussion sound, *exactly*

[1] The lungs were taken from two patients under the care of Dr. Chambers and Dr. Sibson, at the St. Mary's Hospital. I would remark that the fact here mentioned was observed by several gentlemen connected with the hospital, and its truth admitted by all of them. One gentleman was impressed with the idea that there must have been a "hollow" within the upper compressed lobe of the pleuritic case, from the peculiar character of the percussion sound which struck upon his ear.

similar to that which it had offered during life, after a portion of the pleuritic fluid had been withdrawn.

"I did not observe, during life, the nature of the percussion sound of the thorax in the case of partial consolidation, produced by tubercular inflammation, but it nevertheless well illustrates the fact I am alluding to.

"The conclusions which I am justified in drawing from these cases are:—

"1. That Skoda's assertion, that a *partially* condensed lung yields a clearer and more tympanitic percussion sound than a healthily inflated lung, is correct.

"2. That Dr. Williams's mode of accounting for this 'tracheal' sound, as he calls it, viz. by supposing that the upper part of the lung is compressed against the anterior walls of the thorax by the fluid behind, and thus, being consolidated, transmits, when percussed, the hollow sounds of the large tubes, is not correct, at least in all cases, for here was an instance in which *every part* of the *partially* consolidated upper lobe yielded equally well the tympanitic percussion sound, and so also when divided to show the absence of all hollowness or large tubes.

"3. That the sound, so far from of necessity indicating the presence of air in the pleura, is a sign that the lung contains less than its normal amount of air.

"One important practical deduction, if I am not mistaken, naturally flows from these facts, viz. that in certain cases of pneumonia, *if not in all*, when the consolidation of the lung has reached a particular stage, *but not yet that of hepatization*, the percussion sound over the affected portion, so far from being duller, *is actually clearer than natural*. The error of diagnosis into which a misinterpretation of this fact may lead the physician, is manifest enough; it may induce him, at a critical period of the disease, viz. when the lung is on the eve of complete consolidation, to prognosticate a commencing return to its healthy condition."[1]—*Monthly Journ. Med. Sci.* Aug. 1853.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

44. *Popliteal Aneurism successfully treated by Compression.*—Dr. Richard Sargint communicated to the Surgical Society of Ireland the following case:—

Michael Costello, æt. 30, a strong, healthy-looking man, was admitted into the Clonmel Poorhouse on 3d March last, and states that he was always in good health, though at times a hard drinker. He was an overseer on the Waterford and Limerick Railway. About October last, was obliged to walk a good deal each day, and frequently to assist in lifting the cars which were employed carrying clay, and which required all the strength and exertion he could use. About this time, he felt a great stiffness in the left leg about the knee, and a shooting pain down to the foot. He, however, continued his employment until Christmas, when he was obliged to give up work, as the swelling, which had been gradually getting larger in the popliteal space, became so painful and tense that he could not walk. The pain was of a throbbing character, and on applying the hand it was raised up at each impulse. The limb could not be straightened, and he felt a numbness in the leg and foot, together with sharp pain, as if pins and needles were stuck into them. He continued getting worse till his admission.

On examination, the limb was found much swollen, and the veins turgid. A large aneurism occupied the popliteal space; it was fully the size of the closed

[1] Is it not a fact of constant observation, and corroborated by auscultation, that in *the early periods of phthisis*, the percussion sound is clearer in the subclavicular space over the affected lung than elsewhere? My friend, the editor of this journal, informs me that he has correctly diagnosed the existence of general miliary tubercular disease of the lungs, from observation of the preternaturally clear percussion sound everywhere produced thereby over the thorax.

fist. On applying the hand, a strong impulse was communicated at each pulsation of the heart, and the bruit was very loud, and the thrill was quite perceptible to the touch.

On the second day after admission, a temporary clamp, "made by a strong steel hoop which nearly surrounded the leg, and to which a tourniquet was attached," was put on, and pressure made on the artery, which nearly controlled the pulsation. From this he felt almost immediate relief, and got the first good night's sleep which he had had for some weeks. The next morning, the position of the pressure was altered, and from time to time this was done. This day he felt a severe burning pain in the tumour; this pain, though becoming less each day, continued for eight or nine days. The swelling of the foot and leg began to decline, and also the pain in them. The pulsation at this time (the ninth day) was hardly perceptible, and the bruit very slight. On the 17th of March, Dr. Carte's compressor (which Dr. Scully, under whose care the man was, had in the meanwhile procured) was applied instead of the temporary one, and gave great comfort to the patient; and on the 24th all pulsation and bruit had ceased, even when the instrument was relaxed. However, it was retained on the limb with moderate pressure until the 4th of April. At this time the leg was quite straight, the tumour much decreased, and no pain of any description felt in the limb, and he could move it freely in every direction, and also flex the knee without any annoyance. He now declares himself as well as ever he had been in his life.

I have no doubt that the instrument might have been removed sooner; but as it caused no annoyance to the patient, it was thought safer to keep it on so long, so as to make sure that there should be no recurrence of the disease. We were very much aided by the patient himself, who, being a very intelligent man, was shown how to alter the position of the instrument when it caused pain in any one place. The anastomosing vessels are much enlarged round the joint, and there is not the slightest inconvenience felt after the pressure.

April 18. The patient was discharged this day from the house, as he was anxious to resume his employment. The tumour is not now more than a quarter of its original size, and is daily decreasing.—*Dublin Med. Press*, June 1, 1853.

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45. *External Popliteal Aneurism successfully treated by Compression.*—The following interesting case of diffused aneurism, of nearly twenty inches in circumference, successfully treated by compression, through a formidable series of complications, was communicated to the Surgical Society of Ireland by JOHN JACOB, M.D.:—

Peter Beale, ætat. 22, from Ballyroan, Queen's County, formerly a private in the 5th Fusileers, admitted into the infirmary June 14, 1852. He states that during a march of twenty-three miles over a mountain road in the Mauritius by night, he experienced a strain (his foot turning in a car-track), which was followed, in five or six days, by a swelling in the right ham, about the size of a pigeon's egg, having a pulsating sensation. He applied to Surgeon Small, of the 12th regiment, who admitted him to hospital the following day. He was subsequently sent to Port Louis, where he remained in hospital for nine months.

Pressure was applied, about three inches below Poupart's ligament, for the space of about ten days, by means of a clamp with a small-sized pad, which he states did not remain in the proper place, in consequence of its being too small. A deep slough formed, the cicatrix of which is considerable, an inch and a half by one inch. The instrument was moved to within one inch of Poupart's ligament, where a similar slough formed, in each case in about forty-eight hours. The instrument was left on ten days at each place. Pulsation in the tumour did not diminish during this time, but the size did not increase. There was a good deal of œdema of the leg, which disappeared when the pressure was removed. He returned to England in April, 1851, and remained in hospital at Chatham for about five months. No treatment was adopted until August, when pressure was again applied for thirteen days, two compresses being used, one at the groin by means of an instrument, which he states resembled a truss, and another over the upper part of Hunter's canal, with a steel clamp and a screw, both being used at the same time. That over the middle of the thigh caused a

deep slough, and that over the groin a superficial one in about three days. When the ulcers healed he was discharged, 1st September, 1851, the tumour having rather increased in size. Early in November, he came to the infirmary, but declined to be admitted, the tumour in the ham having at that time attained considerable size.

June 14. Within the last three weeks it has increased very much, altogether preventing his walking; he complains of severe pain in the tumour and leg; it extends, at present, from about three or four inches above the knee on the posterior part to the upper part of the middle third of the leg; it measures round the upper part nineteen inches, lower part seventeen inches and a half; length of tumour six inches. The size can be slightly diminished by pressure on the artery in the thigh; but the tumour returns to its original size immediately on its being removed. By auscultation, a bruit de soufflet is audible, principally on the outer side over the head of the fibula, and on the inside, behind the head of the tibia. The tumour extends, at each side, above and around the condyles of the femur. The knee-joint is bent, the leg being nearly at a right angle to the thigh, and cannot be made straight. 17*th*. Ordered to rest in bed, a bandage being applied from the foot to above the knee.

July 6. He has been in much the same condition as at last report; experiences some trifling pain in the tumour; more in the leg and foot. Compression was this day applied at 1 P. M., by means of a piece of sheet gutta percha placed on the back of the thigh, and a compress, about four inches long by an inch and a half broad, longitudinally over the artery, at the lower part of Scarpa's space, the pressure being made by means of four or five India-rubber bands passing round the limb outside, the gutta percha attached to the compress by means of hooks placed at each side, several being inserted to afford an opportunity of increasing the amount of pressure by means of a greater number of bands. The limb was bandaged from the foot up to the point where the compress was applied, and placed on a pillow lying on the outside. In about a quarter of an hour after, patient began to complain of pain in the whole limb, which increased in a great degree for about an hour, but afterwards became more moderate. The whole limb became very much congested, livid, and swollen. The saphena vein is of unusual size, which he states became so after pressure was used on a former occasion. Pulsation in tumour became much diminished after the first two hours, at which time the pain was less severe. Eight P. M., patient much easier, but still complains of pain in the limb, principally along the anterior part of the tibia. Very slight pulsation observable in the tumour. Temperature of limb continues natural. ℞. Acet. opii ♏ xxv; liq. tart. ant. ʒss; aquæ menth. ʒi.

7*th*. Patient passed an easy night, but states that he was afraid to sleep, as he is subject to nightmare, and was afraid of disturbing the limb; took the draught at 11 P. M. yesterday, and felt much relieved from pain afterwards; the limb appears much less swollen than yesterday; temperature continues good; states that he could bear more pressure, if necessary; an additional band was applied accordingly; is rather feverish; pulse 130. Sumat haust. effervescent, cum tart. antim. gr. i.; ad ʒviii, tertia quaque hora.

8*th*. Patient passed a very restless night, suffering a good deal of pain all over the limb, feeling very tense; the bandage appears tighter, and the toes more swelled; a slight amount of pulsation is still felt in the tumour; some vesications and superficial excoriations are observed under and around the pad, which was moved a little higher up, and two extra bands applied, the whole being seven in number; the bandage round the foot was removed; the foot was found congested, and a fresh one applied, from which patient stated he derived comfort. 9*th*. Patient had a comfortable night; does not suffer any pain in the limb, which appears much the same; temperature natural; there appears to be less fever than yesterday; pulse 120; tongue furred; appetite bad. 10*th*. Patient had a bad night; slept very little on account of the soreness in the limb, and, as he states, scalding; there appeared to be a good deal of discharge of serum from the vesications; the compress appears to have moved from its proper position at the upper end; pulse 100; complains of thirst. 1 P. M. The bandages were moved at about 10 A. M., and also the compress; the limb is

found to be still a good deal swollen; pulsation has returned in tumour, which appears smaller, and at the posterior part feels solid; an audible thrill is found in every part of the tumour, on applying the ear. 12*th*. Patient passed a good night; no pain or uneasiness; there is less œdema of limb; tumour appears more solid and circumscribed. 14*th*. Patient going on well; limb feels easy, and is less œdematous; when compared with a cast which was taken before pressure was applied, it is found to be more circumscribed, smaller, and shorter. 12 noon. Patient much the same as at last report. 21*st*. Patient had a pretty good night, was free from pain, but did not get much sleep; considerable œdema of limb, which appears the same as at last report; pulsation can be seen when pressure is made over the tumour; a third band was applied for three hours during the day, but there appeared to be very slight diminution of pulsation during that time, with increased œdema of limb, notwithstanding continued hand-rubbing; complained of pressure very much, but stated he could bear two bands very well; the bandage was reapplied, and two bands left on; there is now considerable œdema, without any apparent diminution of pulsation, with a good deal of uneasiness; the pressure was now removed, and hand-rubbing ordered to be continued for half an hour, when the pad was removed; there was a manifest increase of pulsation, with an audible bruit, on applying the ear over the tumour; but the pulsation is not to the same amount as before the commencement of pressure. 23*d*. Patient rested very well; there is less œdema and also less pulsation in tumour, which appears to be harder; pulse 92; not much thirst. Directed to keep up pressure, by means of an eight-pound weight applied on a pad over the groin, which commands the pulsation sufficiently. 8 P.M. Patient seems tired from the exertion of holding the weight, and the press artery which he used occasionally to relieve himself, but was able to keep them applied nearly all day; the tumour seems to have become more solid, and pulsation much diminished. Sumat mist. aperientis ℥ii, quarta quaque hora; donec alvus responderet.

25*th*. Patient rested well last night; pulsation appears less in tumour, which is more solid to the touch, principally towards the anterior part; a weight of about eight lbs. is sufficient to cause all pulsation to stop; he applies it about ten or twelve times a day, and retains it for a quarter of an hour each time. 26*th*. Patient continues to improve; pulsation decreasing gradually; rests well; appetite improving. 28*th*. Patient has no pain; tumour appears smaller, and pulsation less, more easily controlled; solidity extending towards knee. 30*th*. Tumour diminishing in size, and more solid to the touch; pulsation is easily controlled by a weight of seven lbs., which he continues to apply; can now retain it over the artery for about a quarter of an hour at a time, then rests for twenty minutes or half an hour, and then reapplies the weight. 31*st*. Patient was attacked last night, at about 10 P. M., with pain in right side, accompanied by urgent dyspnœa; pulse 120, full and hard; dulness and crepitus at lower part of lung. Was bled till faintness was produced, when the pain was relieved; had vomiting after bleeding. He was ordered: ℞. Tart. antim. gr. ii; tinct. opii ℈ii; aquæ ℥viii. Ft. mist. sumat ℥ss, tertia quaque hora.

August 1. Patient going on well; pneumonia is much improved; has no pain in the side; no cough; passed a pretty good night; has not been able to apply pressure the last two days; tumour remains the same. 2*d*. Patient was seized yesterday with an attack of diarrhœa; disturbed through the latter part of the day, accompanied with abdominal pain, which was relieved by a turpentine fomentation and a mixture composed of tinct. opii ℈ij, mist. cretæ ℥vi; ℥i tertia hora. 3*d*. Patient much better to-day; diarrhœa nearly ceased; bowels opened twice since one o'clock yesterday; pulsation nearly ceased in tumour, which feels quite solid. 4*th*. Patient improving; diarrhœa much better; no pain either in the side or belly; there appears to be a slight increase of pulsation in the tumour. Directed to apply the pressure again as often as he can bear it. 7*th*. Did not rest well last night; has not done so the last few nights; feels very weak, and looks badly; complains of being feverish; the limb feels hot, but collateral circulation seems fully established; several enlarged vessels can be distinctly felt and traced by their pulsation on the internal part of the knee. 10*th*. The

tumour is quite solid; there is a good deal of œdema; tumour feels hot; it is evident that decomposition of blood has taken place in the tumour, which will suppurate and discharge itself through an opening in the ham; pulse 120. App. cataplasma simplex. 11*th*. Patient had a good night; slept pretty well; limb feels easier since the poultice was applied. 12*th*. Patient did not rest so well last night; feels the limb more uneasy and painful; there is a blush of redness along the inner surface, with considerable œdema and fluctuation; an opening was made at the posterior inferior part of the tumour, when a quantity of decomposed blood having a fetid smell escaped; another opening was then made where he complained of most pain; a quantity of dark-coloured discharge was evacuated, mixed with grumous blood; felt much easier after the evacuation of the matter, about twenty ounces in quantity; a tent was introduced into each opening: R. Sulph. quin. gr. i, ad ♏ v; aquæ ℥viii. Ft. mist. sumat ℥i, ter quotedie; cont. haust. anodyne tinct. alia.

13*th*. This morning, an opening was made on the external side, a little below the knee; about eight or nine ounces of sanguineous pus was evacuated, also a few ounces passed out through the opening in the ham; the tumour is smaller; tension quite relieved; appetite is improved since yesterday; diarrhœa stopped. R. Sulph. quinia gr. xxiv; pulv. opii, gr. ii. Ft. pil. xii. sumat i. ter quotidie.

14*th*. Patient feels much better; the limb is found to be quite flaccid; a free discharge has commenced from the opening in the ham; *a quantity of fibrin has come away, having a laminated appearance; the different layers can be separated from each other;* discharge continues of the same character; the opening towards the anterior part of the leg continues to discharge freely when pressure is made on the tumour. 17*th*. Patient going on very well; discharge more purulent, but diminished in quantity; limb much reduced in size. 19*th*. Patient continues to improve; some œdema continues in the foot; discharge of a more healthy character, less profuse; a small portion of fibrin came away to-day; rests better at night, but still requires his anodyne. 20*th*. Patient complains to-day of pain and soreness of left leg and thigh, which is slightly swelled, resembling phlegmasia dolens; states that he awoke in the night and felt the limb cold and painful; glands in groin enlarged and tender; the right limb continues to improve. 21*st*. Patient did not rest well; complains of pain of the left thigh and leg; he appears much depressed, and the countenance contracted; right limb improving, discharging freely pus of a more healthy character. Sumat haust. efferves. ext. carb. ammon. 4ta quaque hora. R. Ung. hydrarg. ℥ii; olei camph. ℥xiv. Ft. liniment. ter quotedie utendum cum sinistro.

22*d*. Patient appears rather better to-day; left limb is a good deal swelled, but there is less pain; complains of soreness more than pain; right limb much the same as yesterday. Cont. medicamenta. 23*d*. Patient rather better; less swelling in limb, which is not so sore to the touch; feels much better; has a good appetite, and could sleep if not disturbed; at the dressing last night, a portion of clotted blood was discharged mixed with pus; opening looks healthy. 25*th*. Patient going on well; swelling diminishing in left limb; the opening in the ham continues to discharge healthy pus. 28*th*. Patient continues to improve; swelling of left limb is much less; there is also less pain and soreness; appetite is much improved; the right limb is much diminished in size; opening in the ham closing; discharge less in quantity. From this date, he continued steadily to improve, and was discharged from hospital on the 6th of November, cured, the limb nearly straight, and able to walk well.—*Dublin Med. Press*, June 1, 1853.

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46. *Popliteal Aneurism successfully treated by Compression.*—The following case was reported to the East Kent and Canterbury Medical Society, by H. Denne, Esq.: A man, aged 36, tall, rather stout and healthy-looking, was admitted into the Kent and Canterbury Hospital with a popliteal aneurism, in March, 1852. About seven years previously, the right leg was removed below the knee in consequence of a severe injury about the foot, from a railway truck passing over it; he recovered well, and had since used a wooden leg. In October, 1851, he visited the Great Exhibition, when he was obliged to walk much

and very fast, about four miles in an hour. About a week or ten days after his return home, he felt great pain in the under part of the knee, and considered it was from a sprain; but upon examination he found a swelling, of the size of his finger; since then the swelling had gradually increased. He first felt pulsation in the swelling about Christmas; but it has never been so painful as to oblige him to rest the limb.

A tolerably firm elastic swelling occupied the ham projecting posteriorly, extending over the inner side of the lower part of the femur, and encroaching upon the calf of the leg, so as very much to limit the power of flexing the leg. A very forcible and *expansive* pulsation was perceptible in the entire extent of the tumour, but more especially on the inner side. A loud bruit was detected by the stethoscope; and, upon interrupting the circulation by pressure upon the femoral artery at the groin, the swelling diminished considerably. The patient complained of pain extending down the calf of the leg to the ankle. During the unavoidable delay that occurred, in obtaining the required apparatus from London, the tumour increased in its upper and inner portion; and the bruit, which had been more distinct on the inner side, became more audible in the centre of the posterior part. The pain which he had experienced upon admission diminished very much under the rest and quiet to which he was subjected. The apparatus used was that known as Dr. Carte's pelvic apparatus for compression of the artery at the groin, with the ring-tourniquet for effecting pressure upon the artery below.

The instruments were applied on April 18, at twelve o'clock. The pulse was then ninety-four, and rather weak. The pressure on the artery in the thigh was so fixed, as to stop the pulsation completely. The pulse very soon rose to 108, and became fuller; it however fell to ninety by the evening, and varied during the subsequent treatment between eighty and ninety-six. The pain from the pressure had become so severe by 2 P. M. that it was necessary to relax the tourniquet on the thigh and to apply the pressure upon the groin. It was found that the integument was discoloured where the wooden pad of the instrument had pressed; and shortly after, slight vesication formed on the surface of the bruised skin. After this, pads of lint were introduced between the integument and the compresses of the tourniquets with good effect. The man was cheerful and intelligent, and interested himself so much in the plan of treatment, that, during the latter part of it, he was intrusted with the adjustment of the pressure, and permitted to relax the screw of one instrument, and to readjust that of the other, whenever the pressure became too painful. He bore the pressure of both instruments for a period varying from four to six hours. Although, each time the compresses were screwed down, the pulsation was completely checked, yet, shortly afterwards, a feeble thrill, and sometimes a fair pulsation could be discerned in the swelling. This was more particularly the case when the compress on the groin only was in operation. In addition to the occasional pain from the instruments, the man experienced pain, and sometimes numbness, in the foot and ankle.

On the 19th, he was thirsty and rather feverish, partly from a sleepless night and constipated bowels. He was relieved from these symptoms in the course of the day, by a free action of the bowels. During the night of the 19th he slept comfortably, at intervals, for three and four hours at a time; and for seven hours the pressure was maintained by the ring tourniquet.

Between 4 and 5 P. M. of the 21st, about *seventy-six hours* from the commencement of the treatment, the patient suddenly felt a severe thrilling pain about the upper and inner sides of the knee-joint, which lasted nearly half an hour, and extended down the leg to the toes; a sensation of throbbing about the part was also experienced. Shortly after this pain had subsided, the screws were relaxed, and the swelling was found to be quite free from pulsation, which never returned. During the three days of treatment, the tumour was perceived to become more consolidated, slight pressure was continued four days longer, and then the apparatus was removed and a bandage applied.

He was made an out-patient on May 18; a firm swelling the size of a fist still remaining in the ham. During the three months that he continued an out-patient, the tumour slowly diminished.—*Assoc. Med. Journ.* July 1, 1853.

47. *Traumatic Aneurism of the Ulnar Artery, successfully treated by Compression.*—J. Reid, Esq., reports a case of this in a woman, aged 37, married, admitted into the Kent and Canterbury Hospital, November 18, 1851. She was of a spare habit, and of a nervous and anxious temperament. Two months before she was admitted, when correcting her son at dinner-time, she directed a blow with her hand at his head. At the same moment, the boy raised his hand with a knife in it, in order to protect himself; her arm came in contact with its point, and a deep wound, about an inch and a half above the wrist-joint, on the ulnar side, was made in her right forearm. Blood immediately issued in a jet, and spirted about the room; but by the aid of her neighbours the bleeding was stopped. About an hour and a half afterwards she showed the wound to a surgeon, who, finding there was no hemorrhage, brought the edges of the wound together. The arm became painful and swollen at the seat of the injury, and about three days afterwards, the whole arm, from the fingers to the elbow, became very much swollen and tender. This condition lasted for a week, during the whole of which time the pain was very severe. Antiphlogistic measures were adopted, and the arm was poulticed; and at last the patient was bled from a vein in the affected arm and experienced great relief. The general tumefaction subsided, leaving a circumscribed swelling, which was presumed to be an abscess, and which it was proposed to puncture, but the patient objected. It was subsequently discovered to be an aneurism.

When she was admitted, there was a swelling immediately above the wrist, about as large as a goose's egg, without very distinctly marked limits. It pulsated strongly in all parts, the beating being perceptible even to the patient. A loud bruit was also communicated to the ear. The tumour appeared to extend under the superficial muscles of the arm. The cicatrix of the wound was situated on the inner side of the swelling, and for some distance around it the surface presented a dull slate colour, the integument feeling much thinner here than elsewhere. The movements of the hand and fingers were crippled; and there was no sensation in the ring and middle fingers. A thick compress of lint was placed over the swelling; the fingers were bandaged, and a roller was firmly applied to the forearm, as far as the elbow. The pressure could not be borne longer than for four hours, and then it was slackened. At the end of four days, though the tumour seemed a little smaller, the pulsation remained as strong as before. The fingers were now more firmly bandaged by strips of adhesive plaster, two pieces of sheet lead folded in lint were fitted to and placed over the tumour, and a solid narrow cylindrical pad was placed as nearly as possible in the course of the ulnar artery, along the upper part of the forearm, and firm pressure with a bandage was applied over the whole. The pressure was borne for six hours, when it was necessary to relax it by cutting some of the turns of the bandage. When the bandage was removed, at the end of forty-eight hours after its application, the pulsation had ceased in the swelling. The bandage and compresses were reapplied, and at the end of three days were removed. The tumour was then found to have decreased; but upon close examination it was thought that there was a feeble pulsation, such as the recurrent circulation might produce. An additional pad was placed between the aneurism and the wrist, over the ulnar artery. No pulsation could be subsequently felt, and the swelling contracted. The compresses were gradually removed, and the bandage only was retained. When the swelling had diminished to the size of a small walnut, it remained stationary for some weeks; but in the last week in December, the forearm became painful and slightly swollen. By rest, cold lotions, and aperient medicines, this subsided, and the remains of the aneurismal sac became soft and fluctuating, so that it was expected that suppuration had occurred in it. The swelling, however, slowly decreased, and ultimately entirely disappeared, the only trace that remained of the injury, being a cicatrix with some induration in the surrounding parts. The hand continued in a crippled state when she was discharged.

Mr. Reid thought that much of the successful issue of the case was due to the pressure produced upon the ulnar artery by the cylindrical pad above the aneurism, and regarded the case as one confirming in some degree the treatment of aneurism by compression of the artery between the aneurism and

the heart. Had this mode of treatment failed, it was intended to have employed pressure upon the brachial artery by a ring tourniquet.

The patient was again in the hospital in 1852, for dyspepsia and neuralgic pains in the face and head. Although the movements of the arm had improved, those of the hand remained in much the same state. A slight increase of power in the movements of the fingers, but more especially in the wrist, took place whilst she was in the hospital, and there seemed a prospect, when she left it, that in course of time the hand would again become useful.—*Assoc. Med. Journ.* July 1, 1853.

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48. *Ligature of the Abdominal Aorta.* By Prof. MONTEIRO, of Rio Janeiro.—This case, which is the fourth of the kind on record, occurred so long ago as November 5, 1842.

The patient was a man, aged 31, and suffering from what appeared to be aneurism of the right common iliac artery. The symptoms had first declared themselves after a long ride on horseback.

The operation having been agreed to by his colleagues, M. Monteiro made an incision from the left antero-superior spine of the ilium to the tip of the last free rib, in which the superficial fascia, the oblique and the transverse muscles, and the fascia, were successively divided. He then exposed the aorta behind the peritoneum by breaking down the intervening cellular tissue; and the peritoneum and its contents having been raised by the hand of an assistant, he passed the ligature by means of a long needle, and tied it in a double knot. After this he closed the wound in the parietes by three twisted sections.

Immediately upon the tying of the ligature the pulsation ceased in the tumour, and the inferior extremities became cold, but four hours afterwards the coldness had passed off, and the temperature had risen a little beyond the natural point. During the two following days nothing remarkable occurred, and the only point of interest in the report is that the lower limbs were not paralyzed. On the 8th there were slight pulsations in the lower part of the tumour and in the femoral ring. On the 9th, these pulsations were more marked. On the 12th, the wound in the parietes had healed, except at the point occupied by the ligature connected with the aorta. On the 14th, about two ounces of red blood escaped by the side of the ligature, the pulse was small and frequent, the skin clammy, and the lower extremities cold. On the 15th, there was fresh hemorrhage by the same channel, together with extreme feebleness, and great pain in the right iliac region. On the 16th, the hemorrhage recurred, with vomiting and hiccup, and the patient died.

The *post-mortem* examination revealed no sign of inflammation in the peritoneum. The aorta had been tied about four lines above its bifurcation, and an inch below the inferior mesenteric branch. Above the ligature the vessel was empty, and the fatal hemorrhage was found to have issued from an opening in its coats corresponding to the knot of the ligature. The tumour, which was found to be false aneurism, appeared to have originated in a small rupture of the femoral artery, about an inch below Poupart's ligament, and from this point the blood had wormed its way into the neighbouring intermuscular cellular tissue of the thigh and upwards, under Poupart's ligament, into the iliac fossa, and thence behind the peritoneum to the back of the liver and the under surface of the diaphragm. The right common and external iliacs were red, friable, and seated in the upper and inner side of the tumour.—*Half-Yearly Abstract*, vol. xvii. from *Rev. Medico-Chirurgicale*, March, 1852.

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49. *Ligature of the Subclavian Artery.*—This operation was performed by Dr. DOMENICO CACCIOPPOLI, on the 13th of February 1853, in the Hospital of Incurables at Naples. The patient was a singer, thirty-three years old. suffering from a large spontaneous aneurism under the left armpit. After the *electropunctura* and other means had been tried without success, a transverse incision was made over the clavicle, and the ligature of Scarpa was applied at the subclavian artery, immediately at its exit from the scalenus muscles. At the expiration of one day, the pulsation of the tumour reappeared. The operator, suspecting that the ligature was relaxed, to avoid the danger of a new ligature,

three days after the operation, introduced a small ivory tube, as large as a quill, guided by the lancet, into the wound as far as the artery. He was then enabled to contract the artery at pleasure. At the expiration of seventy hours, the ivory tube was easily removed. Thirteen days afterwards, the ligature fell, and in forty days the wound cicatrized, sense, warmth, and motion existing in the left arm equally with the right. The tumour dispersed both by absorption and by evacuation of dissolved blood from two suppurated punctures. The individual went out of the hospital on the 3d of April, and continues perfectly well up to the present time.—*Lancet*, Aug. 20, 1853.

50. *Pulsating Tumour in the upper third of the Thigh—Ligature of the External Iliac, successful.*—H. Denne, Esq., reported to the East Kent and Canterbury Medical Society, the following case: A sailor, aged 30, of middle stature, rather thin, and having a sallow complexion, was admitted into the Kent and Canterbury Hospital, on April 20, 1847, with a pulsating tumour in the upper and anterior part of the left thigh. Some time before his admission, whilst using great exertion on board ship, he felt something give way in the thigh; and about a month before he came to the hospital he perceived a small swelling in the situation where he had felt the pain, but took no particular notice of it. The swelling, however, became larger and more painful, so as to cause him to apply to a surgeon in the Isle of Thanet, who immediately sent him to the hospital.

On examining the thigh, a tumour, of undefined limits, but apparently as large as a man's fist, was found in the upper and front part of the left thigh. Its form was rather conical, the point being directed inwards; a strong *expansive* pulsation was felt in it in every direction, and a bruit was heard on applying a stethoscope to it. Pressure on the femoral artery completely stopped the pulsation. The man complained of cold in the part, and was greatly comforted by the application of a hot poultice. During the few weeks he was in the hospital, prior to the operation, the swelling slowly increased; but, on visiting him on the afternoon of May 9, Mr. Denne found that a sudden change had taken place since his last visit. The thigh in the neighbourhood of the tumour had become considerably enlarged, and was discoloured, the limits of the tumour being lost in the general swelling. A consultation of the medical staff was summoned the same night; and, in consequence of the swelling approaching close to Poupart's ligament, it was deemed expedient that the external iliac artery should be immediately tied.

Mr. Denne cut down upon the artery in the usual manner, and experienced no difficulty in putting a ligature round the vessel. The pulsations in the tumour ceased immediately after the operation. The limb was enveloped in spongio-piline, and its temperature was never much below that of the other. The patient's recovery was uninterrupted. The ligature separated on the twenty-ninth day (June 7), and on the fortieth (June 18), pulsation was felt in the anterior and posterior tibial arteries. The general and increased tumefaction noticed on the 9th of May, subsided soon after the operation; but the tumour did not continue to decrease in the proportion usually observed in aneurism, after ligature of the artery that is involved; so that, when he was discharged from the hospital, September 3, there remained a tolerably firm tumour, about two-thirds of the size of the swelling that existed when he was admitted, and retaining the same form.—*Assoc. Med. Journ.* July 1, 1853.

51. *Aneurism by Anastomosis cured by Galvanopuncture.* By M. Nelaton.—A young woman, aged 20, presented herself at the hospital to be treated for a tumour, situated over the nasal eminence, extending more to the left than to the right, manifestly composed of a convolution of bloodvessels, which could be traced by the finger. There was a distinct trembling synchronous with the arterial systole, and the ear detected a well-marked murmur. The patient referred the disease to a blow received two or three months before. The nature of the affection was immediately recognized by M. Nelaton, as consisting of dilatation of the arterial trunks in this region. The situation of the tumour in the mesial line would have rendered necessary ligature of both carotid arte-

ries; and M. Nelaton preferred, to so dangerous a proceeding, a trial of galvanopuncture, which he performed in the following way:—

Two needles were applied to those points of the tumour where the pulsations were most apparent, and then brought into connection with the battery of Bunsen, ("Systéme de Piles de Bunsen,") composed of thirty pairs of plates, which were permitted to act uninterruptedly for ten minutes. For the distance of a centimetre from the point of contact of the needle, connected with the positive pole, an induration was felt, caused by the coagulation of the blood in the tortuous vessels of the part.

The pain was very slight indeed. A similar application of electricity was effected, eight days afterwards, in another point of the tumour, and with the same result. In short, six sittings sufficed to stop the pulsations in the whole extent of the tumour, and to lead to the obliteration of the plexus of arteries of which it was composed. The harder parts became in time absorbed without recurrence of the permeability of the vessels.—*Med. Times and Gaz.* Sept. 10, 1853, from *La Presse Med. Belge.*

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52. *False Aneurism of the Posterior Tibial Artery.*—The injection of perchloride of iron caused coagulation of the blood in the spurious aneurismal sac, produced by division of the posterior tibial artery in a child aged four weeks. The firm clot squeezed out the serum, which was seen oozing from the surface of the wound. The instrument used for injection was a glass syringe, with a long and slender tube, which was made to penetrate the clot, and convey the perchloride to the fluid blood below.—*Med. Times and Gaz.* July 30. (*Proceedings of the Royal Medical and Chirurgical Society.*)

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53. *New Instrument for injecting the Perchloride of Iron in Cases of Nævus, &c.*—During the last two months we have witnessed several trials of the acid solution of the perchloride of iron, as an injection for producing the coagulation of the blood in nævus, etc. In more than one instance, very severe inflammation of the part has followed its use, and in one, a nævus on the scalp, sloughing, and even exfoliation of a portion of bone resulted. There appeared, however, some reason to think that the powerful agent had been too freely used, and that, had a much smaller quantity been injected, the promises made by its introducers might possibly have been borne out. Other objections also applied to the method and instruments in ordinary use; they required that an opening should be made for the introduction of the syringe; and the flow of blood produced by the puncture, to say nothing of the smallness of the aperture, sometimes rendered the latter difficult of accomplishment. We have been shown, during the past week, an ingenious little instrument contrived by Mr. Fergusson, of Giltspur-street, which looks likely to aid very materially the efficient accomplishment of this procedure. It consists of a very small glass syringe, the point of which terminates in a fine platinum tube. This tube is encased in another one, about a quarter of an inch longer than the first, ending in a sharp trocar-like point, and having, near its extremity, an oblique opening in one side. By rotating the outer tube on the contained one, their apertures may be made to correspond or otherwise, at the will of the operator. Thus, then, the necessity for two instruments is quite done away with. The syringe having been charged, the operator rotates the outer tube, so as to conceal the orifice of the inner one entirely, and protect it from the ingress of blood. In this state the instrument is passed into the centre of the tumour, and, having been stirred about as much as may be thought desirable, the tube is turned back, so as to expose the orifice; and the piston being at the same moment depressed, a drop or two of the solution is squeezed out. It may be supposed, that the smallness of the whole instrument, and the diminutive size and oblique position of its aperture, will afford considerable guarantee against the injection of too large a quantity, while on its advantages, in case of employment, it is scarcely necessary to insist.—*Med. Times and Gaz.* Aug. 27, 1853.

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54. *Analysis of Cases of Injuries of the Head examined after Death in St. George's Hospital, from January,* 1841, *to January,* 1851, *with Pathological and*

Surgical Observations. By PRESCOTT HEWETT, Assistant Surgeon to St. George's Hospital.—In this analysis, the author purposely included only fatal cases, where the exact nature of the injury had been clearly made out.

SECTION I. *Scalp Wounds without Fracture of the Bones.*—In this decennium 33 cases of scalp wounds without fracture of the bones were examined. In 10 of these cases death was produced by some other cause. In the remaining 23 cases mischief of a serious nature soon followed the injury, and ultimately proved fatal. Diffuse cellular inflammation occurred in 17 cases, and in 12 this was accompanied with erysipelas. In four cases there was diffuse inflammation of the neck, which spread down to the mediastina in two, and caused œdema of the larynx in two cases. Hemorrhage in two cases followed sloughing caused by inflammation. In 9 out of 12 cases, where both brain and its membranes were healthy, death ensued from purulent infection. In ten cases inflammation had existed about the membranes or the brain. In eight, suppuration was found between the bone and the dura mater. The trephine had been applied in three cases. Most of the patients were persons of intemperate habits. Several had insisted upon leaving the hospital, but were readmitted with swelling of the scalp and other signs of inflammation. Simple puncture, as recommended by Sir Benjamin Brodie, relieves the œdematous swelling not uncommonly following scalp wounds; but free incisions are required when suppuration ensues. Sloughing of the scalp is thus usually prevented. Separation of the dura mater from the bone may occur either as a primary or as a secondary effect. In the first case the small vessels connecting the dura mater to the bone are ruptured by the blow; in the second, the osseous tissue inflames and suppurates. Generally speaking, the suppuration between the bone and dura mater is circumscribed, and the extent of the mischief on the inner side of the bone is exactly traced by that on the outer side; but should the suppuration occur in the parietal region it may be much more diffuse. In this decennium, there has been no single instance of the secondary puffy tumour of the scalp, described by Pott. It has never fallen to the author's lot to witness a case in which the application of the trephine for the evacuation of pus within the cranium, as described by Pott, had a successful issue. He has never known the trephine applied at St. George's Hospital with the view of evacuating matter situated either under the dura mater or in the brain. Matter may flow, upon the application of the trephine, from the cancellous diploe of the cranium. Purulent infection was observed in 14 out of 23 fatal cases of scalp wound. This disease is found especially in injuries involving the osseous system, and M. Chapaignac believes that the removal by the trephine of the contused bone, before suppuration has taken place in its diploe, destroys the source from whence the secondary mischief is for the most part derived; but such an explanation cannot be received as a valid one.

SECTION II. *Fractures of the Bones, and Separation of the Sutures.*—In this decennium 78 cases of fractures of the skull were admitted, 18 of which had received other severe injuries, of a nature likely to cause death; 56 were simple fractures; 22 were compound. Of the simple fractures, 19 were accompanied by wounds of the scalp not exposing the bone; extensive separation of the sutures coexisted in 14 cases. In 47 cases, the injuries had been produced by the patients having fallen from various heights; in 10, the blow had been inflicted by some heavy instrument. In the 56 cases of simple fracture, there was only one single instance in which the injury was confined to the spot upon which the blow had been struck. Fractures of the base of the skull seldom exist alone; in a large majority of cases the injury coexists with fractures radiating from the point where the blow was struck. In 68 cases of fracture of the base, six only were confined to this region, and it was only in two cases that no trace of fracture could be detected at the seat of the blow. In six cases of simple fracture the injury was accompanied by depression, which was in all very slight. In 10 cases of compound fracture there was also depression of the fragments, considerable in nine. Fractures of the skull, with depression of the inner table alone, occur but rarely. The author divides the skull into three zones, to each of which injuries are often confined, fractures of the middle zone being the most common. Fractures involving the orbital plates of the

frontal bone are oftentimes accompanied with effusion of blood in the orbit. Bleeding from the ear is of not infrequent occurrence in severe injuries to the head, indicating fracture through the petrous portion of the temporal bone. But of the signs indicative of fracture of the petrous bone, one of the surest is the copious discharge of a watery fluid, which may or may not be preceded by bleeding. The author believes the fluid to come from the sub-arachnoid space. That such is sometimes the case has been established by M. Robert, in a valuable paper in the "Mémoires de la Société de Chirurgie de Paris," vol. i. The discharge occurred in old as well as in young subjects. M. Chapaignac has endeavoured to prove that this fluid owes its origin to the filtering of the colourless part of the blood, and other surgeons have held that it comes from the cavity of the arachnoid. Such cases, however, if they do occur, must be rare. The author does not believe that the source of the watery fluid in all cases is the sub-arachnoid space, but in most cases, and especially those where it is clear and abundant from the commencement, and he refers to Mr. Hilton's Lectures in proof of this statement. Extensive separation of the sutures co-existed with the fractures in 14 cases; separation of the coronal suture occurred in seven cases, and of the lambdoidal in three cases; of the sagittal suture in four cases. In one case, and in one only, there was separation of a suture without a fracture; it occurred in the posterior part of the squamo-parietal suture.—*Lancet*, June 11, 1853.

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55. *Entire Resection of both Superior Maxillary Bones.*—The complete extirpation of both superior maxillary bones has been twice performed by HEYFELDER.

CASE I. A. Schmidt, aged 25, came to the Clinique, June 13, 1844, suffering from a tumour of the face, which, from his account, had commenced a year ago, in the posterior part of the palate, and had gradually involved both superior maxillary bones. The nose was pushed upwards, and flattened; the palatine arch was depressed towards the tongue; the face was affected with œdematous swelling; both respiration and deglutition were impaired, speech was embarrassed, and the sleep broken. The teeth, though loosened, were sound; only two incisors were wanting. The tumour appeared everywhere hard, uneven, and insensible to the touch, and did not pass beyond the boundaries of the superior maxillary bones. The constitution was good; lancinating pains had been felt in the tumour only during the last few weeks.

Dr. Heyfelder concluded that the tumour was of an indolent malignant character, and that the only remedy consisted in the entire removal of both maxillary bones. The operation was performed, June 23, 1844. The patient being seated in a chair, the head resting against the chest of an assistant, two incisions were made from the external angles of the eyes to the labial commissures, and the included parts were reflected upwards to the internal angles of the eyes, and to the ossa nasi. The flap, thus formed, was raised towards the forehead, until the infra-orbital ridge was exposed. Then the chain-saw of Jeffray was passed through the spheno-maxillary fissures, and the malar bones were divided; the maxillæ were next separated from the ossa nasi; the vomer and the thinner bones were cut with strong scissors; after which a chisel, applied with moderate force to the superior part of the tumour, was sufficient to effect its separation. The accessions of syncope prolonged the operation, which, however, did not last longer than three-quarters of an hour. Very little blood was lost; torsion and compression sufficed to arrest the hemorrhage. Two hours afterwards, the edges of the wounds, from the angles of the eyes to the corners of the mouth, were united by twenty-six points of suture, and cold lotions were applied; there was no reaction nor swelling; the patient could swallow water and broth. Four days after the operation, it was remarked that the wounds had become almost entirely united by first intention. In six weeks, the patient was presented at the Physico-Medical Society of Erlangen, and on August 25, he was discharged.

The following was his condition: There was no deformity of the features; in the mouth, there was seen along the median line a fissure thirteen lines long and three lines broad; the extirpated parts had been replaced by the tissue of

a cicatrix, firm and solid at the circumference, but somewhat softer near the fissure; the soft palate and the uvula were in their natural place; deglutition was free, and the tongue in a better state than formerly; the nose had resumed its usual form and direction; the face, which, before the operation, was monkey-like, once again possessed a human expression.

The microscopical examination of the tumour showed that it was of cancerous nature. Six months afterwards, the patient, in good health, went to work in the fields; but in the summer of 1845, Dr. Heyfelder was informed that another tumour was forming in the forehead.

Case II. Martin Lochner, aged 55, was affected in the upper lip, twelve years ago, with a cancerous growth, which was operated upon three years after its appearance. For two years there was no return; but, subsequently, a small tumour developed itself near the cicatrix, approached the nose, and excited violent pains. Soon a cancerous ulcer formed, which extended over the right half of the upper lip, the ala nasi, and the palate. The patient came into the hospital Jan. 21, 1850, in the following state: A horrible cancerous ulcer, commencing at the right commissure of the mouth, occupies the greater part of the upper lip, and has destroyed both the right ala and the septum nasi. All the parts were covered with painful, bleeding, fungous growths. The palatine arch was converted into an irregular, knobbed, cancerous mass; most of the teeth were lost; an offensive secretion was constantly flowing, and the patient was thinned and worn out.

The operation was performed January 24. Two incisions were made, exactly as in the preceding case. The chain-saw was used to separate the left os malæ, and Liston's bone forceps to divide the right. The remains of the septum nasi and the vomer were cut with strong scissors. A considerable quantity of the soft parts was likewise taken away. The bleeding was easily arrested, and the wounds were united as well as possible by suture. The patient was fed by a syringe. The left coronary artery bled three hours after the operation, but it was easily tied. The case went on well; and, on February 18, when the patient was presented at the Physico-Medical Society, the following was his condition: The greater part of the wounds were united; but a deficiency existed in the face, corresponding to the disease, at the superior part of which were seen the vertical portion of the ethmoid, and the two ethmo-turbinal bones. In the velum palati there was an opening, two centimètres wide. The destruction of the lip and of the nose produced on the right side a triangular opening, the base of which corresponded to the mouth, and the superior angle to the root of the nose.

He can take liquid food, but his speech is unintelligible; but, when the opening in the palate is closed by the sponge, he can make himself understood. Autoplastic operations were unadvisable, from the exhausted condition of the man.—*Med. Times and Gaz.* July 30, from *Rev. Medico-Chirurgicale de Paris*, 1853.

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56. *New Splint for Fractures.*—Mr. Winchester, on a recent occasion, brought before the Medico-Chirurgical Society a new form of apparatus for treating fractures of the extremities generally. He urged the necessity for restoring the limb to its original normal condition, in order to insure its entire usefulness, and the difficulty which is sometimes experienced by surgeons in attaining this end, which at times is so great as to be insufferable. The great difficulty is to secure perfect coaptation of the ends of the broken bone during the entire process of union, owing to the limb being bound up, and thus concealed from the eye of the surgeon. Mechanical contrivances should therefore be such as do not of themselves tend to injure the shape and strength of the limb; but, by maintaining the natural form, preserve it without fear of displacement during the process of repair. This, the author thinks, cannot be accomplished with the apparatus at present in use. Taking the form of the sound limb as the guide by which to adjust the broken one, the author has been led to the construction of a splint which he considers superior to any hitherto constructed. The principle sought to be attained is to procure a model of the sound limb by means of an adjustable splint, which may then be applied at once to the injured one.

The splint consists of distinct pieces, each about five inches long, which, by means of screws, can be fixed at any desired angle. In applying this splint, the patient is placed on his back in bed, the sound limb extended, and the broken one placed as nearly as possible in the same position. The splint is then laid against and fastened to the outer side of the sound limb by means of straps, and the form of the limb being thus taken, is secured by the screws. It is then immediately turned and applied to the broken limb, a wet many-tailed bandage having been previously applied and secured by the straps, the exact form and length of the sound limb and natural form of the broken one being thereby maintained. The advantages which the author claims for this apparatus are, correctness of principle, simplicity of construction, facility of application, and efficiency. After its application, the parts retain their natural position, no displacement takes place through the movements of the body, and there is no necessity for readjustment. The perineal bandage is not required, nor any fastenings at the foot, by which to make extension. The author thinks this splint peculiarly applicable in cases of fractured neck of the thigh-bone; and considers that in all cases of fracture, both of the upper and lower extremity, as well as in diseased joints, it will afford more effectual support than any other apparatus. It does not give rise to any of the inconveniences due to retained perspiration, and any part of it can be removed at pleasure, so as to apply dressings, allow the escape to discharge, &c. Another great advantage is, that, should passive motion of any joint be required, it can be obtained without the removal of the splint.—*Half-Yearly Abstract*, vol. xvii. from *Medical Times and Gazette*, Dec. 25, 1852.

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57. *Treatment of Compound Fractures by Occlusion.*—M. Trastour details, in a series of papers, numerous cases of compound fractures he had witnessed in M. Chassaignac's ward, illustrative of the favourable results that have followed their treatment by "occlusion." The treatment consists in the immediate application of a cuirass of adhesive plaster, which is retained *in situ* for several days, all surrounding inflammation being kept down by leeching, if necessary. M. Trastour's report is highly favourable; under this plan the wound far more rapidly heals, pain and traumatic fever are much diminished, as is the chance of the occurrence of nervous delirium, tetanus, erysipelas, and purulent infection. In cases in which it may be doubtful whether amputation will be required, it enables us to wait with safety for the decision, and brings these traumatic cases in nearer relation to the cases in which amputation is performed for disease, and in which its results are so much more satisfactory. Since we have adopted this practice, M. Chassaignac never amputates for traumatic injuries of the fingers, however violent the injury may have been. Even when reunion does not take place, very much larger and better stumps result from leaving the case to nature.—*Half-Yearly Abstract*, vol. xvii. from *Archiv. Gén.* vols. 29, 30, and *Med.-Chir. Rev.* April, 1853.

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58. *Early Operation for Hare-lip.*—Andrew Nolan records (*Dub. Med. Press*, June 2, 1853) a case of operation for single hare-lip on an infant six hours after birth. The child did not seem to suffer very much after the operation was complete, and took drink, apparently without suffering, next day. The lower needle was removed in *sixty* hours, and the upper in seventy-two. Union was perfect.

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59. *Local Treatment of Carbuncle and Furuncle.*—Mr. Richard Flint recommends the application of litharge plaster, spread upon white kid, as the best treatment of boils and carbuncles:—

"The mode of application is the following: After spreading the plaster in the ordinary manner, it is to be cut in dimensions according to the size of the carbuncle or boil to be dressed; carefully observing that it is large enough to include from half an inch to two or three inches of the surface around the tumour. Where this is large and deep, as in a carbuncle from four to six or eight inches in diameter, the circumference to be embraced should be proportionately large; and the leather in such a case should be chosen soft and strong,

in order to obtain an amount of adhesive mechanical support to the surrounding and subjacent parts, so as to enable them to originate and establish a new action. It must be well remembered that it is not enough, in any of these dressings, to cut the plaster the exact size only of the tumour. It is expected that some of the surrounding surface should be taken in also.

"In twenty-four hours after dressing, a favourable change in the appearance of the parts is generally discernible; and—what will be allowed to be a highly important result, in those cases where the local irritation is fast inducing a state of cerebro-spinal distress and lesion, likely soon to end in coma and death—it will often, in a less period of time, afford a mitigation of suffering which comes upon the patient like a charm, and restores him the rest and sleep to which he had long been a stranger. If the tumour be prominent or pointing in any part, a crucial incision is to be cut in the plaster, and placed directly over it, that the discharge may have free egress; and should there be at first no suppuration, this mode of dressing quickly promotes it, and assists the living parts to detach and throw off, at the least possible loss, the sloughy cellular membrane. If the tumour is not disposed to slough or suppurate, the application decidedly hastens the resolution or absorption of the effused matter.

"In a boil, the dressing is precisely the same as in a carbuncle; taking care that the plaster has sufficient hold of the tissues around—perhaps from half an inch to an inch. In a few hours, the acute pain and suffering of the patient, which had unceasingly disturbed his rest and comfort, become greatly mitigated, and soon afterwards wholly removed; and the improvement in the condition of the parts is strikingly apparent on every renewal of the plaster. The little trouble and inconvenience of this method, both to patient and surgeon, strongly contrast with the inconvenience, wearisome labour, and attention required by the old plan; and whilst the latter necessarily confines the patient, even in minor cases, to the house, in bed, or on couch, the former will often be little or no restraint on his usual avocations.

"It is requisite that the plaster be changed more or less frequently, according to the extent of discharge or slough; but the longer the interval, the more desirable, as the less the parts are disturbed the better. If there be much discharge or slough, soiling the cut edges of the plaster, it may be changed once a day; if there be little, every third or fourth day will be sufficient; but the linen pledgets and bandage adjusted over the plaster, and absorbing the discharge as it exudes, may be replaced frequently. In general, no other dressing is required to the end of the treatment. The plaster must be reduced in its dimensions as the tumour lessens in size, whether it be by suppuration, slough, or absorption. In some instances, towards the close, simple or calamine cerate may be desirable. The solution of the nitrate of silver, of the strength of ʒi to ℥i, will also be found of great value as a cicatrizer; for I concur with my friend, Mr. Higginbottom, that, besides other valuable properties, which he has so ably advocated, there is no agent in the surgery so useful for promoting healthy cicatrization, or removing excoriations, as lunar caustic. It likewise excels all other means in giving increased vigour and strength to a new cicatrix.

"From what I have seen of this method of treatment in a number of patients during the last several years, and from the speedy relief or total removal of pain and distress in the worst cases, and in bad temperaments, I have looked upon it as of great value, if attentively carried out; for I am persuaded that it will render recourse either to the knife, to caustic remedies, or any of the other more severe measures of our art, unnecessary. Should, however, the choice of the surgeon and patient lead them to the latter alternative, I would strongly enforce that, whether it be the knife or the caustic, it be always used at an earlier stage of the disease than is yet commonly practised; as this, like the early free incision in diffusive inflammation of the cellular membrane, will prevent the destructive ravages of tissue, as well as the fatal constitutional symptoms which follow the unchecked and protracted course of the disease."

Mr. Flint states that it has long been a practice with him "to use, with a similar object, and from the same mode of reasoning, a like plan of dressing in various classes of tumours, of a subacute or chronic kind, where there is an evident deficiency in the vital actions of the diseased and contiguous parts; and

it has appeared to me more successful in many cases than the ordinary treatment by fomentations, poultices, and embrocations. Where there is an unavoidable suppurative tendency, the plaster will accelerate it better than the cataplasm. When the tumour is disposed to point, the cut edges of the plaster, as in the former case, should be placed directly over where it is desirable for it to open; and I find it well accomplishes this object."—*Assoc. Med. Journ.* July 15, 1853.

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60. *Retention of Urine in Children.*—Dr. JOHN TOLER communicated to the Surgical Society of Ireland the two following cases of retention of urine from a rare mechanical cause.

Mary Carney, a girl of 13, was brought to my house, May 4, 1848, by her mother, who stated she had not micturated for twenty-four hours, and that she had been under the charge of a dispensary doctor for some days, who had repeatedly visited her, prescribed medicine for her, and ordered a warm-bath; but finding her daughter suffering a great deal, and latterly becoming stupid and continually slumbering, she became frightened, and brought her to me. I found the bladder much distended, she complained of not being able to micturate, and if I ceased speaking to her she became lethargic. On examination, I found the vagina completely occluded by a firm membrane, which was attached to the inferior part and sides of the orifice of the vagina, but had free edge above; it had grown up until it completely covered the meatus urinarius, and thus prevented the egress of a drop of urine. I at once passed a director between the membrane and the pubis, and divided it downwards, so as to free the urethra and orifice of the vagina at the same time. She passed a quantity of urine, and appeared relieved. I directed her mother to keep a candle between the divided edges for a few days. I was obliged to draw off her urine twice a day for three or four days, the bladder having lost its power of expulsion from over-distension.

The other case was Anne Mechan, aged 12, who was brought to me by her mother, April 19, 1849. She stated that she perceived her daughter frequently sitting down to urinate, that she would only make a few drops at a time, and would cry with pain on doing so. I found the bladder distended; and having had the experience of the former case, I suspected that the same malformation existed, and on examination found the very same kind of membrane occluding the vagina and extending upwards, so as almost to completely obstruct the meatus urinarius. I easily divided it, as in the former case, by passing a director between the free edge above and the pubis; and cutting downwards, so as to free the meatus urinarius and orifice of the vagina at the same time, I gave her the same directions as in the case above recited, and she rapidly recovered.

Now, I consider these cases as highly instructive, as the first would soon have proved fatal from the blood being poisoned by the retention of urea in the circulation, if she had not been relieved by an operation, the cause of the retention having escaped the notice of the medical person who visited her; and the second case was rapidly approaching the same state. So that in all cases of retention of urine in the female which cannot be satisfactorily accounted for, the existence of such a membrane should be looked for, and, if found, the patient can be quickly and easily relieved by a simple operation.

Dr. Bellingham said that, within the last six weeks, a female infant, aged about three months, had been brought to St. Vincent's Hospital by its mother, who stated that she believed there was something wrong with it. On examination, he (Dr. B.) found the orifice of the vagina obstructed by a membrane which extended completely across it, and was evidently analogous to that described by Dr. Toler. A small orifice existed in the membrane anteriorly, which permitted the passage of a probe. A director was therefore introduced under it, and the membrane, which had about the thickness of good writing paper, freely divided with a bistoury.

Dr. Fleming was much gratified by Dr. Toler's interesting communication. In the last number of the *Dublin Journal*, he made some remarks on the urinary diseases of children, in connection with morbid conditions of the urine, and it so happened that amongst the cases where irritability of the bladder and re-

tention of urine occur in children under particular circumstances, he made mention of the particular lesion under discussion, and stated that he performed, with a view to its cure, the very operation now proposed by Dr. Toler. He was satisfied that in most if not all of these cases the lesion was congenital, and that it might not be productive of any irritability of the bladder until something occurred which called on the bladder to perform a somewhat unusual duty. Some time ago, he saw a female child who had laboured under scarlatina, and who was then suffering under one of the sequelæ of that affection, namely, albuminous nephritis, accompanied by anasarca, a very common occurrence. The child did not suffer, at any previous time, from irritability of the bladder; but so soon as the defective secretion of urine, which was the necessary attendant of the first stage of the disease, had subsided, and yielded to treatment, the greatest possible irritability of the bladder supervened, and with it hæmaturia; and, on making an examination, he discovered the very identical little membrane described by Dr. Toler; and, strange to say, it had wholly escaped the observation of the child's mother. A thin membranous septum existed in the median line, and behind this again was a small fold extending downwards from the clitoris, on the division of which all irritability of the bladder subsided quickly.

Mr. Adams observed that the subject of retention of urine in children and young persons, appeared to him one calculated to excite much interest here; and as there did not seem to be any member of the Society disposed to make any observations specially referable to the peculiar cases of retention of urine this evening brought before the Society by his friend Dr. Toler, he would, if permitted, take the present opportunity of alluding to one class of cases of retention of urine in young children which he had witnessed. The symptoms of the affection, in these cases, resembled much those which characterize the disease called by Desault *dysuria senilis* (the time of life of the patient only being different); the treatment required nearly resembled that recommended by Desault for the dysuria he described. In September, 1847, I visited, while in Paris, the hospital for the treatment of diseases of the urinary organs, so ably presided over by M. Civiale. One morning, when I was present, a girl, aged nine years, was brought to M. Civiale by her mother, who stated that the girl passed her water involuntarily during the night, and had a very frequent desire to micturate during the day; upon which, at once, M. Civiale observed that this girl, he thought, would be found, on farther examination, to be one of those cases he had frequently seen of incontinence of urine combined with an over-distended condition of the bladder; this, he said, he thought he should presently demonstrate to be the case by desiring the patient first to retire and empty her bladder, and that then, on her reappearance before the class, he should introduce the catheter, and thus ascertain whether the voluntary efforts of the patient to empty the bladder had proved efficient or not. The opinion M. Civiale ventured to hazard proved to have been incorrect; for on the reappearance of the patient, on introducing the catheter, no urine flowed. I mention the case merely to show that M. Civiale stated that he had frequently met with this very affection of the bladder in children I am now endeavouring to draw attention to. I may here, perhaps, illustrate the disease in question, and the treatment suitable for it, by detailing the following case briefly: In October, 1847, I was called upon to see a child of the Rev. Mr. G——'s, which was nearly four years old. I was informed by a medical man, since dead, who had been previously in attendance, that the complaint the child laboured under he considered was mesenteric disease, which had succeeded to gastric fever; that he could feel a hard tumour in the abdomen; that the child laboured under an incontinence of urine, but still had a frequent desire to pass water. I visited this patient, bringing with me a catheter. When I placed my hand over the lower part of the abdomen, I felt a hard tumour, which I recognized at once as an over-distended bladder. This organ felt, to use the late Mr. Colles's language, "as hard as a football." I introduced at once the catheter, and drew off a large quantity of urine. The tumour disappeared, but the operation gave only temporary relief; hip-baths and fomentations proved most comfortable to the little patient. Purgative enemata were also used, all which afforded relief;

but after some time, the symptoms proving still obstinate, I had recourse to the same plan as that recommended for the treatment of the dysuria senilis by Desault; that is to say, I drew off the urine carefully twice a day for one fortnight. Under this surgical treatment, the retention and stillicidium urinæ ceased. How long the bladder had been left in an over-distended state before I had seen the patient I know not; but I found that although, by the surgical treatment mentioned, the tone of the bladder was restored, still, the continued over-distension of the mucous membrane, and decomposition of the retained urine, had left behind a disease (catarrhus vesicæ) still to be contended with. The urine presented morbid characters, having become muco-purulent, and occasionally was tinged with blood. I, therefore, in addition to the other means already alluded to, ordered the child to take, in large quantities, a weak infusion of buchu. One pint of boiling water was poured upon four scruples of the buchu leaves, and this tea the child took willingly from his nurse for the period of six months; and so freely did the child take this medicine, that he consumed the above-mentioned quantity every twenty-four hours. The little patient, in due time and season, was brought to the country, and was frequently put into salt-water baths; they were at first used hot, and subsequently cold. Without the surgical treatment (consisting in the use of the catheter) nothing could have arrested the disease in this case; but I would strongly recommend the use of the buchu as here adopted, and the long perseverance in it, as this medicine seemed to me to have a most beneficial influence on the catarrh of the bladder, which long remained after the dysuria had been relieved. Ultimately, the recovery was complete; and I am happy to say that the child, now about eight or nine years of age, enjoys perfect health.—*Dublin Med. Press*, March 23, 1853.

61. *Collodion for Erections accompanying Blennorrhagia.* By Dr. Doringer.—In the *Med. Central Zeitung*, there is reported a case of a rather curious application of collodion for gonorrheal erections, and the result was such as we would like to see borne out by other cases: A young man, aged 28, was attacked for the third time with a blennorrhagia, which was accompanied by such severe and painful erections, that the patient could hardly stay in bed for an hour. After having tried without avail both camphor and narcotics, Dr. Doringer ordered cold fomentations, and when the penis had resumed its natural size, the application over its whole extent, even including its prostatic portion, with a strong coating of collodion. This had the desired effect, for from that moment the patient had no erection, and suffered only from a slight scalding in passing urine. What proves that the amelioration was really due to the means employed is, that on the morrow, the collodion being taken off, the erections returned, but not so severely, and again ceased on the application of a fresh coating of collodion.—*Dub. Med. Press*, June 29, 1853.

OPHTHALMOLOGY.

62. *Partial Opacity of the Lens, producing the Symptoms of Short Sight.*—A form of cataract is occasionally met with in which the opacity amounts to no more than a faint haziness, uniformly diffused throughout the lens. An opacity of this kind will escape any but the closest and most practised observation, and the subject of it will probably be regarded as incurably "short-sighted." Glasses afford little, if any assistance in such cases, and the patient, therefore, remains unfitted for most of the ordinary employments of life.

A well-marked instance of this affection has lately been under the care of Mr. Dixon. The case is farther noticeable for the rapidity with which the lenses became absorbed when broken up with the needle, and the excellent sight and healthy appearance of the eyes, after the completion of the cure.

John B., a fine boy of 13, was brought to the hospital in March, 1852, in

consequence of "extreme shortness of sight." He could read small type at a distance of three or four inches, but could not distinguish the features of persons a few feet off. He had tried various kinds of concave glasses without benefit. The eyes looked bright and healthy, the irides were very active, and there were no irregular movements of the globes. On looking attentively at the pupils, Mr. Dixon observed that they had not the deep blackness which might be expected in a lad of thirteen; and yet they could not be termed "gray" or "milky." Atropine was applied, and then, under concentrated light, each lens was seen to be faintly streaked throughout its whole extent with fine lines, except the extreme margin, which retained its transparency. The lad was to be employed in a counting-house, but his limited range of vision rendered the pursuance of such an occupation almost impracticable.

Keratonyxis was performed on the right eye March 12. By the 7th of May absorption of the lens was complete. A central opening was then made in the opaque capsule, to such an extent as to leave the pupil perfectly clear. The contractility of the iris and roundness of the pupil remained unimpaired.

The needle was used to the left eye on the 20th of August, and again about two months later. These two operations procured the entire absorption of the lens. The patient returned to the hospital early in the present year, and then the pupil was cleared of capsule by an operation similar to that which had been performed on the other eye, a mere ring of that membrane being left, which was completely hidden by the iris in the ordinary state of the pupil. With moderately convex glasses the lad is now able to go through the usual routine of a counting-house with perfect ease.—*Med. Times and Gaz.* June 18, 1853.

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63. *Fluid Cataract—Puncture of Capsule, and immediate removal of the fluid from the anterior chamber.*—Mary Ann R., aged 22, applied at the hospital with cataract in the left eye. No defect of sight had been noticed till she was six or seven years old, at which time her mother observed "a speck" in the left pupil. Of late years this has been getting whiter and more evident. When she was brought to the hospital, in April, 1853, the appearance of the lens was milky, with a faint, bluish cast, and irregularly mottled with chalky-white patches. The iris was very active, and there was good perception of light. The right eye was in all respects healthy. Mr. Dixon expressed a belief, that the lens had undergone that gradual process of disintegration and softening which reduces a cataract to a fluid state. He performed keratonyxis on the 22d of April, and, as soon as the capsule was lacerated, its fluid contents escaped, and rendered the aqueous humour turbid. Mr. Dixon has recently published some remarks on the good effect of immediately evacuating the effused fluid in cases of this kind, as a means of preventing the distressing nausea and vomiting which occur when the fluid is allowed to remain in the anterior chamber.[1] This treatment was pursued in the present instance; a broad cutting-needle having been introduced through the cornea, at the spot whence the cataract-needle had been withdrawn, was rotated, so as to make the wound gape a little, and the whole of the liquefied lens ran out with the aqueous humour. Towards evening, the patient had a slight feeling of sickness, but this lasted for a short time only, and she slept well. In the morning, she had again a little nausea, which soon passed off, and did not return.

On May 20, Mr. Dixon tore up the capsule to such an extent as to leave the pupillary space perfectly free, and excellent vision has resulted.—*Med. Times and Gaz.* June 18, 1853.

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64. *Cure of Squinting by the Use of Prismatic Spectacles.* By T. Spencer Wells, F.R.C.S.—Dr. Kurke, a Dutch physician, first recommended prismatic spectacles for the cure of squinting. He has recorded one case cured by their use in the Dutch journals. Dr. Von Gräfe, of Berlin, has since employed them very extensively. During a recent visit to Berlin, I had frequent opportunities

[1] The Lancet, Feb. 26, 1853.

of observing their effects upon his patients, and I think that the result of his experience should be made known to the profession in England.

The glasses are fitted in ordinary spectacle frames. They are simple prisms of various degrees, from 1 to 20. It would be possible to make them achromatic; but I have only seen the ordinary ones in use.

The operation upon the sound eye, as explained by Dr. Von Gräfe, is as follows: When a prismatic glass is held before one eye on any point of sight in the converging direction of the optic axis, the light falling upon this eye is diverted from its former course, and no longer arrives upon the macula lutea, but forms a more or less eccentric picture, according to the refracting power of the prism. From its position, this is no longer combined with the central picture on the other retina into one perception, but is perceived separately. Thus the object upon which the optic axes converge is seen double.

Theoretically, this phenomenon should be observed when a prism of very moderate power is used; but observation teaches us, on the contrary, that no diplopia follows when weak prisms are employed, especially if the base be directed outwards. This might be explained in two ways. Either the picture on one retina is suppressed, or the eye which sees through the prism takes a new position, which is not perceived by the observer, so that the picture is not formed eccentrically, but falls, like that of the other eye, upon the macula lutea. The improbability of the first supposition at once appears from the fact that no diplopia is produced by weak prisms, while more powerful ones produce it at once, and the greater the eccentric position of the picture the more easily it would be suppressed. The truth of the second explanation is established by a more exact observation of the position of the eyes. On applying the prism we see the optic axes deviate from their former position and return to it as the prism is removed. At the moment of removal the object is seen double, because both axes are not directed upon it. Thus, in order to prevent diplopia, an involuntary strabismus occurs, and we can produce this in any direction by corresponding positions of the prism, but most decidedly so inwards, less so outwards, much less so downwards, and least of all upwards. We can also produce strabismus in this manner in diagonal directions.

It follows that, by the use of prismatic glasses, we have the power of altering the tension of any given muscle of one eye without producing any alteration in the other. This is the peculiar advantage which none of the ordinary orthopædic means formerly employed possessed. On the contrary, the result hoped for from their employment was not only frequently frustrated by the movements of association of the two eyes, but sometimes, as in cases of recent muscular paralysis, an effect directly the reverse of that desired was brought about.

The increased contraction called for from the relaxed muscle by the use of prismatic glasses is the source of their curative power. For example, in a case of convergent strabismus with diplopia, a prism, with its base directed outwards, alters the position of the eccentric picture on the retina of the squinting eye so greatly, and brings it so near the macula lutea, that single vision follows any voluntary power conveyed to the abductor muscle. Consequently, the angle of the squint is somewhat diminished. As it becomes less, and the power of the abductor increases, prisms must be used gradually diminishing in power, until at last a perfectly accurate corresponding position of the eyes is attained at all distances—in other words, the squint is perfectly cured. I have seen patients of Dr. Von Gräfe's, who were thus completely cured in about six weeks, commencing with strong glasses of the numbers from 15 to 20, and gradually wearing them less and less powerful. They are principally applicable in young persons, who squint but slightly; and in cases of diplopia biocularis, where the abnormal position of one eye is only observed when an object some feet distant is regarded, they are the only certain means of cure.

In more marked degrees of strabismus the muscle must be divided, because the use of strong prisms, and the efforts of the patient to avoid diplopia, become very troublesome; and, if the union of the two images causes too great an effort, an effect is produced exactly the opposite of that desired; for if the diplopia cannot be removed, the double images separate still farther from each other, because, when distant, they are not so intolerable as when near.

In many cases after operations for the cure of strabismus by division of the muscle in one or both eyes, although great improvement follows the cure is not perfect. Some degree of squint still persists in one eye, and probably some diplopia, when objects at certain distances from the eye are attentively regarded. In such cases, the prismatic glasses suffice to complete the cure commenced by the operation. I saw several instances in which this proved to be the case in the practice of Dr. Von Gräfe.

I have patients under my care at present who are wearing these spectacles, and I shall take a future opportunity of making the results known. Messrs. Watkins and Hill, opticians, of Charing-cross, have had the glasses ground and fitted for me, and make them at any angle which may be required. Messrs. Bland and Long, of Fleet-street, also make them.

Note.—Of three patients who have used the glasses, two have been greatly improved, and still go on favourably. In the third, where the power of the squinting eye was very much less than that of the opposite one, the strongest prism which could be worn without producing diplopia was ineffectual, and I had to recur to the old method of exercising the squinting eye while the other was covered. I do not use an ordinary shade or bandage as a covering, but have an India-rubber ring, which fits the orbit, covered on the outside with silk, and fastened by a ribbon. This allows free motion of the eye and eyelids, while the light is perfectly excluded.—*Med. Times and Gaz.* Aug. 27, 1853.

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65. *New Method of operating for Strabismus by a temporary Ligature.*—M. Tavignot sent in a memoir, the object of which is to explain a new method of operating for strabismus. This new operation is founded on the following idea, that, instead of lengthening a muscle supposed to be too short, you must shorten a muscle in reality too long. Instead of leaving the eye to oscillate with difficulty, and sometimes sluggishly, between two muscles, one of which is mutilated by a section, and the other remains always more or less powerless, my method of operating, says the author, attacks the longest muscle, and not only shortens it by a sufficient length to equal that of its antagonist, but it furthermore acts by increasing its physiological contraction.

First Operation.—The longest muscle—that is to say, that one which is opposed to the deviation being exposed in the ordinary manner for strabotomy, the operator proceeds in the following manner: A blunt-hook, with an eye at its extremity, is passed underneath the muscle, so as by lifting it up to detach it from the globe of the eye. The hook is then carried forward, so that its concavity embraces the muscle at a little distance from its aponeurotic expansion. A thread of silk is then passed through the eye of the hook, then the hook itself is brought towards the operator, leaving the ligature under the muscle. By a double twist of the ends of the thread on one another, a simple, yet very resisting, knot is obtained. There only then remains to finish the operation, to tighten the knot, and cut away one of the ends of the ligature. The other end is brought to the corresponding angle of the eye and fixed to a spot on the circumference of the orbit.

The first effect of this ligature is to render the lateral fibres of the muscles more central, and thus to bring about a shortening of this organ. The second effect is to develop an adhesive inflammation, which not only fixes permanently the abnormal juxtaposition of the muscular fibres, but also establishes adhesion between the muscle and subjacent sclerotic membrane.

The ligature not being intended to produce division of the muscle, must consequently be only temporary. Towards the end of the second, or beginning of the third day, it can be easily taken off by means of gentle traction carefully applied to the end which remains.

This first operation may not in all cases produce the effect which we have described. Very severe strabismus will no doubt prove refractory. It is at least with this idea that I devised a way of making it more efficacious.

Second Operation.—The book having been passed under the muscle, as in the preceding case, the ligature is passed, not directly under the muscle, but under the hook, so as to embrace the muscular expansion.

Before going farther, it must be discovered by a momentary constriction if the globe is perfectly restored to its normal position. To prove experimentally that the ligature has effected the required degree of shortening, we must proceed, during the operation, in the following manner: The ligature being passed once under the hook, a different coloured thread must be passed through the loop thus formed, then constriction is made by means of the first-mentioned ligature, but taking care to make only one knot, and to make it a single one only. The hook is then withdrawn, and the eye left to itself. The changes in its direction can now be judged of accurately. If the globe is not brought back sufficiently, a larger quantity of muscular tissue must be embraced by the ligature; if the globe is too much brought back, a lesser quantity of muscular tissue must be inclosed; but in either case the ligature already put on must be withdrawn as soon as possible. Owing to the precautions we have adopted with this view, nothing is more easy; the eye being fixed, one end of the ligature is drawn with one hand, while the other hand pulls the thread passed through the loop of this same ligature. The knot gives way immediately to this opposed extension. There only then remains to pass the hook again underneath the muscle (if it has not been already done before taking away the ligature) and recommence the operation, keeping in mind the data furnished by the first trial.—*Dublin Medical Press*, July 20, 1853, from *Presse Méd. Belge.*

66. *Epiphora.*—Mr. Bowman has pointed out a form of epiphora depending upon displacement of the inferior. This may exist with little or no eversion of the margin of the lid, but "the natural prominence on which the punctum is placed is wanting, and, instead of it, there is a flattened or rounded cutaneous surface, on which the orifice may be discerned (though with difficulty) at a little distance from the mucous surface of the lid, and much reduced in size, being in fact never wetted by the tears, but dry and contracted." The more frequent causes of this displacement of the punctum seem to be either a chronic inflammation of the neighbouring conjunctiva causing thickening and slight eversion, or some cutaneous affection of the lower lid. For a fuller illustration of the subject, we refer to Mr. Bowman's interesting paper in the thirty-fourth volume of the *Medico-Chirurgical Transactions.* The treatment consists in slitting up the canal from the punctum to such an extent as to carry back the orifice to that part of the conjunctival surface where the tears are collected. It is necessary, for a few days, to open up the wound by means of a probe, and thus convert the canal into a groove.

Mr. B. Bell records two cases of this form of epiphora which he has successfully treated by the plan recommended by Mr. Bowman:—

"The first case in which I had recourse to this proceeding was a lad of sixteen, who had met with a serious laceration of the eyelids some years previously. The healing process had caused a slight displacement of the punctum, without eversion of the lid itself; and the consequence was, that the tears were constantly collecting and standing in the eye, and so producing not only much discomfort, but considerable disturbance of vision. I performed the operation already described, with the effect of completely remedying the evil. The next case was a young female of seventeen, in whom the symptoms were similar, although the displacement of the punctum seemed to have originated in the more common cause of chronic inflammation of the conjunctiva. The same treatment was equally successful.

I may remark in passing, that in performing the little operation, it is of importance to employ a probe large enough to distend and steady the canal. I have since had recourse to a similar procedure under circumstances somewhat different. A lady of middle age had an obstinate vascular induration, involving the punctum and causing a displacement of it, so slight as to be scarcely visible, but sufficient to cause a troublesome epiphora when she was exposed to the open air or a strong light. Seeing no speedier mode of removing the inconvenience, I passed a probe along the canaliculus, and then, introducing the point of a fine iris-knife, divided the entire swelling. The epiphora ceased, the induration quickly disappeared, and the punctum resumed its functions."—*Monthly Journ. Med. Sci.* Sept. 1853.

MIDWIFERY.

67. *Case of Turning, instead of Craniotomy, in a contracted Pelvis.* By JOHN TRAILL, Esq.—Mrs. R., rather undersized, but otherwise apparently well formed, was confined of her first child in May, 1836, being then in her twenty-sixth year. Her labour, from the commencement, was tedious, notwithstanding the employment of bleeding, tartar emetic, etc.; and, after two days' duration, she was attacked with violent convulsions, which were overcome only by profuse bleeding, and were followed by complete coma.

In this state, the head being still at the brim of the pelvis, she was, with great difficulty, and after much delay, delivered by the forceps, the child having evidently been dead for some time. The recovery was imperfect and protracted.

Her second confinement took place in June, 1838. It was again most difficult and protracted; and, after two days' continuance, resulted in convulsions, followed by stupor, which continued for more than a week. She was again, with even more difficulty than formerly, and after several hours' exertion, delivered of a dead child by the forceps, after we had all but decided on having recourse to craniotomy, which, indeed, had this case occurred some years later in my practice, I should, without hesitation, have performed at an earlier period of the labour, and which, in subsequently reflecting on the case, I have often blamed myself for so long delaying.

In both labours, I had the advice and assistance of Dr. Bruce, and of my brother, Mr. W. Traill.

The patient remained for several weeks in a dangerous state, and her recovery was so slow that she was unable to leave her bed for several months afterwards. She never regained her usual health, constantly suffering from irregular and scanty menstruation, with violent headache, and determination to the head.

At this time I had decided, in the event of pregnancy again taking place, to recommend the induction of premature labour.

Some months ago, Mrs. R., now in her forty-third year, informed me that she was again pregnant, and that she expected to be confined about the end of May.

Having carefully studied Professor Simpson's papers on "Turning as a Substitute for Craniotomy," and believing it to be a favourable and proper case for the plan proposed, I decided on allowing labour to go on to the full time.

May 19.—This morning I was called to Mrs. R., and was greatly annoyed to find her in a most unfavourable state. The membranes had given way six days previously, and the liquor amnii had since been constantly dribbling off; moreover, she had had smart labour-pains for thirty-six hours, and was in a complete state of mental prostration and hopelessness as to the result, both to herself and the infant; so much so, that the child's dead-clothes were provided, and she protested against my being sent for, declaring that she had no chance of being delivered for days to come. On examination, I found the head firmly impacted at the brim of the pelvis, but only a small part within reach of the finger elongated, and the scalp swollen; the os uteri, about the size of a crown piece, not acted on by the pains, but quite dilatable; the contraction at the brim of the pelvis was greater than I had calculated on—the sacro-pubic diameter did not appear to me to exceed three inches.

Having decided on still attempting to turn, I gave chloroform to the full extent, and then with some difficulty succeeded in pushing up the head, and passing the hand into the uterus. I found the liquor amnii almost entirely evacuated, and the uterus closely enfolding the infant; the pulsation in the cord was weak; and, while searching for the foot, the child had repeated convulsive movements. This induced me to hurry the operation as much as possible; but I found considerable difficulty in bringing the head through the brim, so that fully half an hour elapsed before delivery could be completed. The child, a male, rather under the average size, was quite still for several minutes, but ultimately recovered.

When the mother awoke from her sleep, and heard the cries of her infant,

she would not be convinced but that we were deceiving her, both as to her own delivery and as to the possibility of having given birth to a living child. She has made a rapid and excellent recovery, without one untoward symptom, and now, in better health than she has enjoyed for eighteen years, is suckling her child, a strong, healthy boy.

The gratifying result of this case has very strongly impressed on my mind the soundness of the principles on which Professor Simpson has advocated his proposals as to the practice of turning in contracted pelvis, and has led me to believe that the facility afforded to the advance of the head through the brim of the pelvis, in consequence of its changed position, and of the traction which we are enabled to exert through the extruded body of the child, is much greater than could at the first view be considered possible.

If I had been aware of the degree of contraction existing, I do not think I should have ventured to allow labour to go on to the full period. The head was of average size, or very nearly so; the sacro-pubic diameter, I am certain, did not exceed three inches (I believe it to have been considerably less); but, be that as it may, I found the head firmly wedged, and yet only just entered within the brim, after thirty-six hours of continued smart uterine action, whilst the state of the child's circulation and nervous system, as ascertained by the hand *in utero*, showed that *its* life could not have been much longer protracted.

I cannot, therefore, doubt that by the practice pursued the life of the child was saved; nor do I think that the benefits resulting to the mother can be considered less important.

From the degree of deformity of the pelvis, the firm impaction of the head, and its non-advancement, notwithstanding the prolonged uterine action, I do not believe that delivery by the long forceps would have been possible. I believe that craniotomy must ultimately have been resorted to; followed, as in the two previous labours, which occurred under circumstances in every way more favourable, by *at best* a tedious, protracted, and imperfect recovery.—*Monthly Journ. Med. Sci.* Aug. 1853.

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68. *On Painful Distension of the Vagina after the Birth of the Child.*—Dr. Leopold states that he has several times met with examples (never in primiparæ) of excessive suffering, coming on from half an hour to an hour after the passage of the child, and referred to the vagina. It is of the most agonizing character, described by the women as worse than when the child is passing, and causing them to twist and toss about in agony. It arises from distension of the vagina, either by accumulated coagula, or a very large placenta. In the first case, owing to the quantity of blood lost, there are always the early symptoms of uterine hemorrhage; and the women, usually having suffered already from hemorrhage in former labours, are dreadfully frightened at their danger. The softish but not distended uterus is felt pushed up into the umbilical region. The hand should be at once introduced into the vagina, and, after the coagula are completely removed, it should be retained there for at least half an hour, keeping two fingers on the watch within the relaxed os uteri, and irritating this if required.

In the other case there is always a large placenta, which will not yield to moderate traction, partly because its size prevents it from easily traversing the vaginal passage, partly from a spasmodic action of the *constrictor cunni*, and partly because the membranes still remain in connection with the uterus to some extent. Notwithstanding the pain it will cause, the entire hand must be passed into the vagina, so as to embrace the whole placenta and bring it down. —*Brit. and For. Med.-Chir. Review*, July, 1853, from *Neue Zeitschrift für Geburtskunde.*

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69. *On the Administration of Chloroform during Parturition.* By John Snow, M. D.—It is unnecessary now to employ or allude to any of the abstract reasons which have been given for using or withholding chloroform during labour, since a sufficient number of observations have been made to enable the question to be decided by experience. I believe that no one disputes the power of chloroform to relieve the sufferings attendant on parturition; and, therefore, the

only consistent objection that can be made to it is, that some danger or disadvantage may arise from its use. It is well known that, out of the vast numbers of patients to whom this agent has been administered for the performance of surgical operations, a few have unfortunately died whilst inhaling it, or a minute or two afterwards; but it is satisfactory to know that no accident of the kind has happened in the practice of midwifery. This should not be looked upon as a mere coincidence, for there are sufficient reasons for concluding that there is no danger from the exhibition of chloroform during labour by a medical man using ordinary care, even though he may have had no previous experience in its employment. In the first place, the effect which it is necessary to produce in parturition is so much slighter than is required for a surgical operation, that it is not necessary to approach even half-way to a point that would be dangerous if it were exceeded; and, in the next place, the chloroform never requires to be given except whilst there is pain, relief of which serves as a sign for its discontinuance; which sign is not present in exhibiting it preparatory to the commencement of a surgical operation.

There have, however, been some cases in which death has been attributed by certain authors to chloroform, which had been administered during labour. Dr. Ramsbotham relates one such case; but I doubt whether he would have considered the result to be due to this medicine, if he had had an extensive experience of its use either in obstetric or any other class of cases. The chloroform was given occasionally, and apparently very judiciously, during the last four or five hours of labour in this case. Dr. Ramsbotham relates that, at the conclusion of the labour, "the uterus contracted well, and the patient appeared comfortable. At the end of an hour and a half, however, distressing dyspnœa came on, attended with excessive lividity of the face, and all the signs of extensive engorgement of the lungs and heart. Her respiration became more natural under the means employed, and in three hours and a half she lay down to rest; but in half an hour she suddenly arose with a return of the most distressing dyspnœa; this was soon followed by convulsions, and almost immediate death. No inspection of the body took place."

A case somewhat similar to the above occurred in the practice of Dr. Murphy, who, however, does not attribute the fatal result to the action of chloroform. In this case, the chloroform was exhibited very sparingly during the last two hours of labour, the patient not being rendered unconscious. She fell asleep after the expulsion of the placenta, but awoke in two hours with cough and difficulty of breathing. These symptoms increased in spite of treatment, and the patient died a little more than twenty-four hours afterwards. The lungs were found to be greatly congested, and the kidneys were in a pretty advanced stage of granular degeneration.

Fatal congestion of the lungs is one of the results of Bright's disease. I have seen it in the male subject. It is not improbable that, in the case related by Dr. Ramsbotham also, there was either permanent disease or temporary congestion of the kidneys, and that toxæmia existed in both cases. The occurrence of convulsions a little before death in the latter case renders this the more likely. At all events, the symptoms in the above cases do not coincide in the least with the known effects of chloroform, even when exhibited much more freely. It must be remembered also, that the unfavourable symptoms did not commence till an hour or two after the effects of the chloroform had subsided; and in this time the system gets more thoroughly rid of this medicine than of a dose of opium in two or three days.

As chloroform is not a preventive of all the "ills that flesh is heir to," it might be expected that puerperal mania should happen after some few of the many cases in which it is used, especially as it has been inhaled more generally by sensitive and susceptible patients than by others. Dr. Ramsbotham alludes, in a foot-note, to an attack of puerperal mania "which had supervened on the exhibition of chloroform;" but he does not state at what period the mania commenced; whether, for instance, it was an hour or a month after the inhalation. Other cases, or possibly the same one, have been mentioned in the medical societies; but no particulars have been related. I have been told respecting one case of puerperal mania, that the patient had long been in the

habit of inhaling chloroform very freely (taking it often when no one was present) to prevent attacks of epilepsy, to which she was subject.

It was said that, in some of the early cases in which chloroform was employed, the uterine contractions were so much enfeebled by it, that delivery had ultimately to be accomplished by the use of the forceps. It is not improbable that the over free use of this agent might lead to such a result; but I believe it would not arise from its judicious use. It has happened that, in all the cases of manual and instrumental delivery in which I have given chloroform, it was exhibited only in consequence of the operation; for the other cases in which I have administered it have all terminated without artificial assistance.

The propriety and advantages of administering chloroform in parturition being admitted, a frequent inquiry is: In what cases ought it to be employed? It will be readily conceded that, in cases where the pain is not greater than the patient is willing to bear cheerfully, there is no occasion to use chloroform; but when the patient is anxious to be spared the pain, I can see no valid objection to the use of this agent, even in the most favourable cases. The benefits arising from chloroform in severe cases of labour are experienced in a lesser degree in favourable cases; and the patient may be fairly allowed to have a voice in this, as in other matters of detail which do not involve the chief results of the case. The determination of the kind of labours in which chloroform should be used or withheld is really a matter of not much importance; because, as we pass from cases that are severe and protracted to those which are short and easy, the quantity of chloroform that is used, and the amount of diminution of the common sensibility, and of interference with the mental functions become so trifling, that very little remains about which to hold a discussion. Indeed, from what I have observed of the continued use of this agent in medical cases, and its use by healthy persons for experiment, I believe that the quantity which is inhaled in a short and easy labour might be continued daily for an indefinite period, without appreciable effect on the health.

The above remarks apply also in some measure to the question as to the period of the labour when the exhibition of chloroform should commence; for, in proportion as the pains are feeble, it must be more sparingly administered. The most usual time when the accoucheur and I have determined that the inhalation should be commenced, has been when the os uteri was nearly dilated to its full extent, and the pains were taking on an expulsive character. In many of the cases which I have attended, it has, however, been commenced much earlier; for the suffering caused by the dilating pains in the first stage of labour is often very great, and the chloroform is consequently of the utmost service when employed at this time.

As regards the manner of giving chloroform, I shall first allude to cases not requiring manual or instrumental assistance. In such cases, when it has been determined to resort to inhalation, the moment to begin is at the commencement of a pain; and the chloroform should be intermitted when the uterine contraction subsides, or sooner, if the patient is relieved of her suffering. It is desirable to give the chloroform very gently at first, increasing the quantity a little with each pain, if the patient is not relieved. The practitioner easily finds, with a little attention, the quantity of vapour which it is desirable to give at any stage of the labour, and in each particular case; his object being to relieve the patient without diminishing the strength of the uterine contractions and the auxiliary action of the respiratory muscles, or with diminishing it as little as possible. At first, it is generally necessary to repeat the chloroform at the beginning of each "pain;" but after a little time it commonly happens that sufficient effect has been produced to get the patient over one or two uterine contractions without suffering, before it is resumed.

When the practice of inhalation in midwifery was first introduced by Dr. Simpson, he very naturally adopted the plan which is usually followed in surgical operations, making the patient unconscious at once, and keeping her so to the end of the labour. It was soon found, however, by other practitioners, that this is not necessary, and indeed it would not be safe in protracted cases. Drs. Murphy and Rigby were, I believe, amongst the first to state that relief from pain may often be afforded in obstetric cases without removing the con-

sciousness of the patient, and I soon observed the same circumstance. Some persons, indeed, have alleged that the pain of labour can always be prevented without making the patient unconscious of surrounding objects; whilst others have asserted that no relief can be afforded unless unconsciousness be induced. But both these opinions are directly opposed to experience. There are comparatively few cases in which the suffering can be prevented throughout the labour without interfering with consciousness, although there are very many cases in which it can be in this way prevented in the early part of the labour. This difference depends in some measure on the constitution of the patient, but chiefly on the severity of the pain to be prevented. It is in accordance with what is observed in medical and surgical cases, that the pain should be removed in some instances without abolishing consciousness, and that in other instances it should not; for in certain cases of neuralgia, the pain is so severe, that no material relief can be obtained by chloroform, as long as consciousness is retained; and in surgical operations, although it now and then happens that the minor and concluding parts of an operation, such as tying vessels and introducing sutures, can be performed without pain, whilst the patient is consciously looking on, a free incision in the skin can hardly ever be made under similar circumstances without pain.

The external evidences of the uterine contractions continue as before, when the patient is rendered unconscious by chloroform, and the muscles of respiration are called freely into play, to assist the action of the uterus in the second stage of labour. The aspect of the patient under these circumstances, is generally that of one who is suppressing the expression of her sufferings, and any relative or friend who comes in, without knowing that chloroform has been given, begins to praise the unconscious patient for her fortitude. On some occasions, indeed, there are groans and cries, as of suffering; but the mind being unconscious of pain, it can hardly be said to exist.

It may be remarked that complete anæsthesia is never induced in midwifery, unless in some cases of operative delivery. The diminution of common sensibility to a certain extent, together with the diminution or removal of consciousness, suffice to prevent the suffering of the patient during labour; and she never requires to be rendered so insensible as in a surgical operation, when the knife may be used without causing a flinch or a cry. The nerves of common sensation must be allowed to retain their functions to a certain extent during labour; otherwise the assistance of the respiratory muscles, which consists of reflex action or "motion arising from sensation, without the aid of volition," would not take place, even if the contractions of the uterus should still continue.

The effects of chloroform on the brain should not be carried during labour beyond what I denominate the second degree of narcotism, or that condition in which the mental functions are diminished, but not altogether suspended, except when the effect of the vapour is associated with natural sleep. The patient under the influence of chloroform to this extent, has no longer a correct consciousness of where she is, and what is occurring around her, but is capable of being aroused to give incoherent answers, if injudiciously questioned. In this state, the patient will sometimes assist the labour by bearing down voluntarily, if requested to do so, and be otherwise obedient to what is said; and by withholding the chloroform for a few minutes, she at any time becomes quite conscious. As a general rule, it is desirable not to hold any conversation whilst the patient is taking chloroform, in order that her mind may not be excited. The plan mentioned above, of giving the chloroform very gently at first, also has a tendency to prevent its causing mental excitement, the patient coming gradually under its effects. In surgical operations, excitement of the mind can nearly always be avoided by carrying the patient pretty rapidly into a state of insensibility, in which the mental functions are necessarily suspended. But in the practice of midwifery, it is not allowable to cause a state of coma or insensibility, except in certain cases of operative delivery, hereafter to be mentioned.

I nearly always employ, in obstetric cases, the inhaler that I use in surgical operations. There is not the same necessity for an accurate means of regulat-

ing the proportion of vapour in the air which the patient is breathing during labour, where but a trifling amount of narcotism requires to be induced, as in surgical operations where a deeper effect is necessary; still, I find the inhaler much more convenient of application than a handkerchief, and it contains a supply of chloroform which lasts for some time, thereby saving the trouble of constantly pouring out more. When I do administer chloroform on a handkerchief during parturition, I follow the plan that I recommended in a former communication on this subject,[1] of putting only about fifteen minims of chloroform on the handkerchief at one time.

The quantity of chloroform administered during any one pain, never exceeds a very few minims; but the quantity used in the course of a protracted labour is often considerable. Two ounces and a half by measure is the largest amount I have used in one case; but as the apparatus was used, this quantity would go as far as seven or eight ounces employed in the most careful way on a handkerchief. I have not kept any patient continuously unconscious for more than two hours; and eight hours is the longest time I have had to administer chloroform in any case; but it has been continued for a much longer period, without ill effects, by Dr. Simpson and others.

Chloroform can be best applied where there is an additional medical man, who has not to attend to the ordinary duties of the accoucheur; but it can be given very well by the accoucheur himself, so as to save the greater part of the suffering of labour; although he perhaps cannot always administer it in the perfect way in which he could, if he had no other duties to divide his attention.

It is probable that the use of chloroform has no particular influence over the duration of labour, in the whole number of cases in which it is employed; but individual labours are occasionally either retarded or quickened by it, according to circumstances. In some cases, the chloroform, even when very moderately employed, diminishes both the strength and the duration of the uterine contractions, and prolongs the interval between them, thereby making the labour somewhat longer—a matter of no consequence, however, as the patient is not suffering in any way. In other cases, the inhalation causes the uterine action to become stronger and more regular, by removing the excess of sensibility by which it has been interfered with. This occurs more particularly in the first stage of labour. In some cases, also, the chloroform seems to act as a direct stimulant to the uterine contractions, increasing their force and frequency—a circumstance at which we need not be surprised, when we remember that both opium and brandy, in moderate quantity, often act in the same manner. Chloroform has also the effect of promoting the dilatation of the os uteri in many cases, even when no rigidity exists; and when there is rigidity of the os uteri, the inhalation is of the utmost service, and shortens labour very much. This is the case, also, when there is rigidity of the perineum.

During delivery with the forceps, or by perforation, the chloroform requires to be administered very much in the same way as in ordinary cases. It must be given at each pain, so as to prevent the suffering of the patient without checking the uterine contractions. It generally, however, requires to be given a little more freely than in natural labour. Dr. Murphy has related three cases of delivery by the forceps, and one by perforation, in which I assisted him, four or five years ago, by giving chloroform and Dutch liquid, which I was trying at that time. The operations were chiefly undertaken on account of deformity of the pelvis; and the patients recovered very favourably. I have given chloroform in only one case of midwifery in which the knife was used. It was a case of Dr. Murphy's, in which he had to make an artificial os uteri. Of course, under such circumstances, the patient is made insensible at the time of operation.

When it is necessary to introduce the hand into the uterus to turn the child, the chloroform requires to be given in a pretty full dose, so as to suspend the

[1] *London Journal of Medicine*, vol. i. p. 54. It should be recollected that minims of chloroform are very different from drops; two minims being equal to nine drops from the lip of a small phial.

uterine contractions; and as soon as the operation of turning is performed, the inhalation should be discontinued for a short time, to allow the action of the uterus to return, and assist in the expulsion of the child. In the autumn of 1849, I administered chloroform in a case of presentation of the shoulder, attended by Mr. French of Great Marlborough-street, and in a case of presentation of the elbow, attended by Mr. Marshall of Greek-street, Soho; the operation of turning was performed with singular facility in both cases, although the membranes had been ruptured, and the liquor amnii evacuated some time. The uterus afterwards contracted well in both cases, and expelled the placenta in a few minutes. In a case of natural presentation, in which turning was performed by Dr. Murphy, on account of narrowness of the pelvis, and the impossibility of applying the forceps, the introduction of the hand was difficult from want of space, but the uterus offered no resistance.

In other cases in which it is necessary to introduce the hand into the uterus, chloroform is of equal service. On Dec. 26, 1850, I was requested by Mr. Cooper of Moor-street, Soho, to assist him in a case of retention of the placenta. The patient had given birth to a child two hours before, and Mr. Cooper had introduced his hand, but had been quite unable to bring away the placenta, on account of firm contraction of the uterus, in a sort of hour-glass form. On the chloroform being administered, the hand was easily introduced, and the placenta detached and extracted. There was very little hemorrhage. I may here state that I have seen hemorrhage, to any considerable amount, in only one case in which I have given chloroform, and the patient had suffered from it in some of her previous confinements.

It is often asked, whether the chloroform has any effect on the child. It is quite certain that the fœtus must receive a portion of the chloroform into its circulation, as it does of any other medicine which is absorbed into the blood of the mother; and when sulphuric ether was the agent employed, its odour could be perceived in the child's breath after birth. The fœtus must therefore be influenced by the chloroform, though generally to a less extent than its mother, as it receives its dose only at second-hand. It has seemed in some cases that the child was less acutely sensible to the cold air than usual at the time of its birth; and when the mother is unconscious from chloroform, I have not seen it kick and scream in the violent way, and grasp the bedclothes with the force, during the first minute after its birth, that is often observed under other circumstances. With these exceptions, no effects of the chloroform on the child can be perceived.—*Association Med. Journal.*

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70. *Impending Death from the Inhalation of Chloroform in Labour; Recovery by Insufflation.*—M. Boinet has just published, in the *Bulletin de Thérapeutique*, the case of a lady, 30 years of age, who inhaled chloroform to escape the pain of having the forceps applied. She was short and ill-proportioned, and it had been a question whether the natural term of gestation should be waited for, or whether premature labour should be induced. The former course was adopted, but the head became locked at the outlet of the pelvis. Before the forceps were used, a cambric handkerchief, upon which about two drachms of chloroform had been poured, was held at a short distance from the patient's nose. She was soon quite insensible, without experiencing any excitement; and as the operation was being prolonged, M. Boinet desired the husband to place the handkerchief again to the patient's mouth, as she was beginning to move about, and to utter faint cries. The traction was now renewed, and the child extracted; but the husband, being engrossed by the operation, and the perilous situation of his wife, left the handkerchief upon her face, though he had been recommended to take it off immediately the patient was again insensible. Just as the child was being withdrawn, the assistant, who was watching the pulse, stated that it had stopped. The cord was quickly cut, the child removed, and the windows thrown wide open. The heart had ceased to beat, the most complete relaxation of the frame existed, the pallor was extreme; in fact, all the characteristics of death had made their appearance. For five minutes cold water, ammonia, slapping, &c., were used with the greatest solicitude, but in vain, and the patient was declared dead. M. Boinet thought, however, that he should not give up the

case until he had tried the mouth to mouth insufflation. This mode of filling the lungs with air remained at first ineffectual, as the cheeks flapped back immediately the blowing ceased; bellows were also tried, but to no better purpose. And now, finally, as M. Boinet states, a few more direct insufflations were attempted; more to avoid the imputation of leaving the patient too soon, than from any hope of recovering her. These were then continued with great energy, while the assistant pressed the lower part of the thorax, to excite the diaphragm to action. At last the patient made an inspiration, which the author compares to the last gasp of a dying person; and he continued the insufflation without much hope of observing a second inspiration, as the pulse and heart were quite still. But in a few seconds a second breathing effort took place, and the patient gradually recovered, exactly as happens with those who wake from their narcotic sleep without having experienced any arrest of circulation. When the patient had quite recovered, the placenta was taken away, and she made a very good recovery. The question now arises whether this was a mere swoon, which would have been recovered from without any efforts at insufflation.—*Lancet*, Sept. 10, 1853.

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71. *Uterine Vivaces.*—The *Association Medical Journal* (June 17, 1853) contains an interesting contribution towards a pathological history of uterine "vivaces," by EBEN WATSON, M. D., Professor of the Institutes of Medicine in the Andersonian University, Glasgow.

M. Levret, in the *Mémoires de l'Académie Royale de Chirurgie* for 1777, published an elaborate paper, *Sur les Polypes de la Matrice et du Vagin*, in which he makes mention of a kind of polypus under the name of "vivaces."

The following is an abridgment of his description of them: They are, he says, ordinarily unattended by lancinating pains, or by sanious discharges, such as occur in malignant diseases of the uterus; but they cause frequent hemorrhages, like common polypi. They differ from them, however, in having no enveloping membrane, or, at all events, a very delicate one. They are found in two forms; either like *digital vegetations*, more or less long, thick, and numerous, parts of which break off, and come away from time to time with a hemorrhage; or they may be found in one mass, somewhat globular in form, and rendering the womb large and painful; and, though the vagina be found full of this mass, the womb is not at all emptied of it—"ainsi, comme il est communément impossible de parvenir à détruire la cause immédiate de ces fongosités, c'est peine perdue de travailler à les retrancher." "Ces excroissances," he writes at another place, "doivent être censées *incurables*, parceque ces ne sont que trop communément des végétations de quelque ulcère de l'intérieur de la matrice."

M. Herbiniaux, in his *Traité sur divers Accouchements laborieux, et sur les Polypes de la Matrice*, published at Brussels in 1794, gives a more lengthened account of vivaces. He expresses the same opinion with M. Levret, of their origin and incurability.

Cases of this disease have also been recorded by HERBINIAUX, GOOCH, Dr. JAS. HAMILTON, Dr. D. D. DAVIS, and Dr. BULLEN of Cork; and a case is related by Dr. Watson, in this paper, which occurred in his practice.

From the cases which have been recorded, Dr. Watson gives the following generalization of the chief features of vivaces:—

"In the first place, then, vivaces generally indicate their presence suddenly and without previous warning. There are no symptoms as yet recorded, from which any physician can infer their presence within the womb, until a discharge of blood occurs; and even then the diagnosis is obscure. The excessive pain in the lower part of the belly, taken along with the profuse hemorrhages, seems, at this period, to be the only mark fitted to excite a suspicion of the real nature of the case. But we are not kept long in suspense, for the progress of the growth is always very rapid. Within three months, in my case, it had fully distended the womb. The physical signs are then sufficiently marked; viz. the bloody discharge, the stretching of the uterine neck so as to form a tense diaphragm with an aperture in its centre, and the granulated and insensi-

ble growth, felt through it, fixed by a broad base to some part of the internal surface of the organ.

"The termination of the case has hitherto been invariably fatal, sooner or later; death being caused either by gradual exhaustion, or more rapidly, by the occurrence of colliquative diarrhœa, which is the common liberator of the victims of inveterate uterine disease.

"What, then, is the nature of this growth? Is it composed of vegetations from an ulcerated surface, as supposed by Levret, or, is it identical with the cauliflower excrescence of Dr. Clarke, as has been asserted by Dr. Gooch?

"In attempting to answer this question, I would observe that I do not regard the obvious difference of position or site as establishing any essential difference between vivaces and the cauliflower excrescence. At all events, as Dr. Gooch has remarked, they do not, in that respect, differ from each other "more than polypus of the neck and orifice from polypus of the fundus of the uterus." And Sir B. Brodie's case, referred to by Dr. Gooch (*op. citat.* p. 304), would seem to be an instance of the occurrence of the cauliflower excrescence *within* the womb.

"But, while I acknowledge that the growth just named may occur, though very rarely, within the uterus, still, I believe that certain marked differences exist between it and vivaces. The most important of these is the pre-existence of ulceration of the internal surface of the uterus. This occurrence was very clearly evinced in the case, which I have narrated as having occurred in my practice, by the pain and tenderness on pressure above the pubes. But I must confess that the profuseness of the hemorrhage, at this stage of the affection, remains unexplained; nor do I know of any circumstance capable of throwing light on the phenomenon. There was no evidence, at that period, of a growth within the womb; and the pain of the fundus uteri was not felt until after several severe hemorrhages. If we could suppose that some one or more enlarged and atheromatous vessels had been ruptured by the shock of the patient's fall, and that the wound, thus occasioned, ulcerated instead of healing, we might, perhaps, explain the history of the case; and, although it is a theoretical, it is the only feasible explanation I am able to give. But, however this may be, there can be no doubt of the reality of the inflammatory action which speedily ensued, and which, though actively treated, terminated in vegetations.

"On the other hand, the cauliflower excrescence of Dr. Clarke is seldom accompanied by pain; indeed, I may say, never by pain so severe as that which precedes the formation of vivaces. The former is a still more insidious disease than the latter; and hence Dr. Clarke, in his original paper, lately republished by the Sydenham Society,[1] informs us that he had never found it less in size than a blackbird's egg.

"Another remarkable point of distinction seems to flow from the preceding. It regards the nature of the discharge. That from cauliflower excrescence is generally limpid and watery, hardly soiling the linen, and becomes only occasionally bloody, as at the menstrual periods, which are not often disturbed at the first, or after some violent bodily exertion, capable of breaking the delicate structure of the growth. Whereas, in cases of vivaces, the discharge is either bloody or purulent, and ere long it becomes very fetid; evidently proving the much greater amount of vascular action going on in the latter than in the former instance. The watery discharge from the cauliflower excrescence seems to be a mere mechanical transudation of serous fluid mixed with the increased mucous secretion of the irritated vagina, and sometimes, also, with the cast-off cells of the growth itself. In all such cases, too, when hemorrhage occurs, small brainy masses may be found in the discharge, identical in structure with the cauliflower excrescence. Such hemorrhage, therefore, is likewise mechanical, flowing from ruptured substance of the growth. But it is far otherwise with vivaces. They often die and come away as putrid matter, but never seem to break from delicacy of structure; and the hemorrhage in these cases must proceed either from the progress of the original ulcer, or from the smaller vegetations from its surface, which still retain their vascular nature. The longer

[1] Essay on Diseases Peculiar to Women.

and more bulky growths are to all appearance *evascular*, being white and spongy, and filled with cheesy substance like concrete pus. For, as I remarked above, the ordinary discharge, in cases of vivaces, is always purulent when it is not bloody; this, of course, arises from the progress of the ulceration, which is continually sustained and prevented from healing by the mass of its own unhealthy vegetations.

"This leads me to mention, as a fourth distinction between these two kinds of uterine growth, that vivaces do not shrink in bulk after death, as happens in such a remarkable manner with the cauliflower excrescence from the os uteri. But I regret that, for reasons formerly mentioned, I cannot speak with precision on the minute internal structure of vivaces. If, however, I am warranted in concluding from the history of such cases, especially those points in it to which I have just adverted, that vivaces are nothing more than exaggerated vegetations from an ulcer of the womb, matted together by inflammatory effusions, and perpetuating the morbid lesion from which they originated, then nothing can be more different than their internal structure compared with that of true cauliflower excrescence. For, as I have elsewhere more fully explained (*Edinburgh Monthly Journal of Medicine*, for Nov. 1849), the latter growth consists of a congeries of simple and compound cells, some of which are expanded into delicate bags containing blood-corpuscles. These bags exist chiefly on the margin of the excrescence; and, when they burst, they leave the fibrils or hair-like processes, which mark the latest period of its history. It seems to be the peculiar property of these cells to withdraw serum from the blood in the uterine vessels, and to permit its exudation through their walls, thus constituting the greater part of the discharge. But, of course, this ceases at death; and then the cells collapse, or, in other words, the excrescence shrinks away. But no such function is performed by vivaces, and no such shrinking occurs in them after death; and therefore I do not think the inference unfair, that no such mechanism exists in them as in the cauliflower excrescence.

"I have not hitherto introduced the question, whether or not vivaces are malignant in their nature. The opinion of Levret as to their being incurable, and some of the cases recorded by Herbiniaux and others, would seem to indicate that such really was the case. But I am inclined to think that vivaces may or may not be malignant, according to the character of the ulcer from which they spring. This opinion is founded on that which has already been stated and proved, with such data as I possess, regarding the pathological significance of the vivaces themselves; and I think it unnecessary to enlarge upon this point at any greater length. Suffice it to remark, that on this important feature of the case will depend the prognosis and the treatment.

"I do not assert that all cases of malignant disease are incurable, when I say that malignant ulcer of the body of the womb belongs to that category. Its advance is generally considerable before it is clearly diagnosed, and even then it is out of the reach of efficient means of eradication. And when the vivaces have sprung from a non-malignant ulceration, it may still be impossible to root out the morbid parts before the patient's condition has become a hopeless one. In some cases, however, it may be attempted by ligaturing the long vegetations, making the cord cut as well as strangulate the growth, and then cautiously but effectually applying a caustic substance. I should myself prefer the common caustic, because its action, as well as the bleeding, might be conveniently arrested by injections of vinegar and water. As soon as possible thereafter, alteratives and tonics should be given to change and improve the action of the internal surface of the womb. But I feel that I cannot, with propriety, even attempt to frame directions for the treatment of vivaces; and I therefore leave it to others to draw the practical inferences deducible from the preceding pathological data regarding that very rare but most interesting affection of the uterus."

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

72. *On the Mode of Death from the Inhalation of Chloroform.*—The *Monthly Journal of Medical Sciences* for September of this year, contains a highly interesting and valuable paper on this subject by Mr. E. R. Bickersteth, of Liverpool.

The consideration of the mode of death from the inhalation of chloroform, is of the utmost importance as affecting the principles on which it should be administered, the indications that should, as well as those that should not, excite alarm; and above all, the means of resuscitation that may be rationally employed in cases of impending death. "So frequently do we see recorded," remarks Mr. B., "cases of death from the inhalation of chloroform, that no doubt can be entertained of the fact that it is a most powerful and poisonous drug, and that, unless proper precautions be taken, its administration may prove not only dangerous, but often fatal."

Mr. Bickersteth has destroyed several animals by an overdose of chloroform, with a view of ascertaining by what means death took place. The points he was chiefly desirous to ascertain were:—

"1. Whether, in death from inhalation of chloroform, the organs of respiration or of circulation first ceased to perform their functions? and,

"2. If the respiration should first fail, could it be restored by maintaining artificial respiration, for a period sufficiently long to allow the narcotizing or paralyzing influence of the chloroform to pass away?"

The following are the results arrived at by Mr. B. from his experiments:—

"1. That, in death from the inhalation of chloroform, the respiratory movements cease before the cardiac.

"2. That the heart continues its action, uninfluenced by the chloroform, for a period longer or shorter after the cessation of respiration, and that its then failing may be considered as a natural consequence of the respiration having ceased, and as independent of the influence of chloroform.

"3. That if, after the respiration has ceased, and while the heart is still in action, chloroform continues to be absorbed into the system, its movements may become impaired or cease—the chloroform in such case acting directly upon the heart.

"4. That if artificial respiration be resorted to before the cardiac contractions are seriously affected, and be properly maintained for a sufficient period, the respiratory function may be re-established."

To show that these principles are applicable to the human subject, Mr. B. narrates some cases which occurred under his own observation, in which artificial respiration was the means of restoring the natural respiratory efforts when life appeared to have all but gone.

"Case I. A boy was cut for stone by my friend, Mr. Hakes, on the 29th of March, 1849. Chloroform was administered on a piece of sponge, and the full anæsthetic effect produced, before proceeding to tie him up in the ordinary position; the inhalation was continued, without any regard to his condition, until the operation had been completed—altogether about five minutes from the time he first became insensible. It was noticed that during the operation scarce a drop of blood escaped. When it was over, the child was found to all appearance dead—the muscles were flaccid; the surface of the body pale; the respiration had ceased; the pulse could not be felt; the heart sounds were not audible (but the room was by no means quiet); the eyes were half open; the jaw dropped; the pupils dilated; and the corneæ without their natural brilliancy. Several means were tried to resuscitate him, but without effect. At length artificial respiration was commenced—the air escaped with a cooing sound, as if from a dead body. After continuing it for a while, the breathing commenced, at first very slowly and feebly. Soon it improved. In two hours the child had quite recovered.

"Case II. In December, 1851, a child a few months old was put under the

influence of chloroform, for the purpose of having a nævus removed from the right cheek. As soon as insensibility was produced, the operation commenced, the handkerchief containing the chloroform remaining over the face, as some difficulty had been experienced in keeping up the anæsthetic effect. Suddenly the breathing ceased; the muscles became flaccid; the countenance pale and collapsed; and the lips of a purple colour. Artificial respiration was employed, and in less than a minute the breathing returned, and the child was restored.

"Case III. On the 6th of March, 1852, I had occasion to remove the finger of a robust, healthy looking young man in the Royal Infirmary. He was already under the influence of chloroform when I entered the room, and as there had been some difficulty in producing complete anæsthesia, and the last of the chloroform in the bottle was already on the handkerchief, it was thought advisable by my friend in charge of its administration to keep up the inhalation, in order to produce a coma sufficiently profound to last until the completion of the operation. It was therefore left over his face, and I commenced and removed the finger, slowly disarticulating it from the metacarpal bone. I distinctly recollect hearing the man breathing quickly and shortly, and I also remember that, when just about to look for the vessels, my attention was attracted to his condition by not any longer hearing the respiration. The handkerchief was still on his face. I took it off, and found, to my consternation, that the breathing had ceased; the face was livid; the eyes suffused; the pupils dilated; the mouth half open. He was to all appearance dead; still, the pulse could be distinguished as a small, hardly perceptible thread, beating slowly. Immediately artificial respiration was commenced. For a minute or two his condition did not alter in any respect—then the lividity of the countenance increased, the pulse was no longer perceptible, and the sounds of the heart could not be satisfactorily heard. The words of the gentleman who put his ear to the chest, and who was well practised in auscultation, were, 'I cannot be certain.' During the whole of this time, artificial respiration had been diligently employed, but still the air appeared to enter the chest very imperfectly. I despaired. I felt certain the man was dead, and that no human aid could restore him; and if it had not been that those standing near me had urged me to persevere, I believe I should then have deserted the case as hopeless. Just at this time it occurred to me to put my finger in the mouth and draw forward the tongue, in order to secure there being no impediment to the air entering the lungs. Retaining it in this position, we again began the artificial respiration, and found that then the chest was fully expanded with each inflation. After keeping it up for a minute or two, the gentleman who had all along kept his hand on the pulse, exclaimed, to our delight, that he could again feel it—'It was just like a slight flutter that reached the uppermost of his four fingers,' all of them being placed over the course of the artery. It gradually became more distinct and firmer, and at the same time, the lividity of the face decidedly lessened. In another minute the man made a slight inspiratory effort. I ceased directly the artificial respiration, and assisted merely the expiration by pressure upon the ribs. Another and another inspiration followed, and in a short time he breathed freely without assistance. The countenance became natural, and he appeared as if in a sound sleep. In half an hour he spoke when roused; then he vomited, and complained of giddiness. In an hour afterwards he had recovered sufficiently to walk home.

"Moments of intense anxiety appear much longer than they really are; but even allowing this, I am quite sure that, at the very least, five minutes elapsed from the time when the man ceased breathing before the first inspiratory effort took place, and that for not less than one minute, the pulse was imperceptible, and the heart's action almost, if not altogether inaudible.

"Case IV.[1] A few weeks after the occurrence just described, I was assisting Mr. Syme in removing the breast of a lady. A gentleman, my superior in the hospital, was conducting the inhalation of chloroform. Anæsthesia was

[1] This case occurred shortly after the dissertation was in the possession of the Medical Society, and, consequently, did not appear in the original paper.

complete, and the breathing good, when the operation commenced. The chloroform was allowed to remain over the face during the whole time of its performance. Before it was over, I noticed the respiration become very quick and incomplete, and suggested, in consequence, the propriety of removing the handkerchief. My remark was neglected for eight or ten seconds, and then, just as it was taken away, the breathing ceased suddenly. The face became deadly pale; the eyes vacant; the lips livid. Instant dissolution appeared inevitable (the pulse was not felt). Artificial respiration was immediately commenced, but the air not entering the lungs freely, the tongue was pulled forwards and retained so with the artery forceps. The chest then expanded freely with each inflation, the air escaping with a cooing sound. In rather less than a minute the respiratory movements recommenced, but at first so slowly and imperfectly that it was necessary to assist expiration. When recovery was a little more established, the operation was completed. Before the putting in of the sutures, sensation had partially returned, and in a short time the lady had perfectly recovered.

"I would here direct attention to the expediency of drawing forward the tongue, in all cases when it is found necessary to resort to artificial respiration. When the patient is lying on the back, so soon as the breathing ceases and the jaw drops, the tongue is particularly liable to fall backwards and close the orifice of the glottis. Artificial respiration, under such circumstances, is worse than useless. It is better at once to pull the tongue well out of the mouth, and passing a hook through the tip, confide it to the care of an assistant. I am convinced that in some of the cases in which artificial respiration has failed, it has been from the neglect or too tardy adoption of this very simple means. Time of the utmost value has been lost in the absurd attempt to restore animation by applying stimulants to the nostrils, or pouring cordials into the mouth, without even a thought that the first can have little or no effect after the respiration has ceased, or that the second would as likely pass into the trachea and bronchi, as into the stomach.

"There can be no doubt that, in the foregoing cases, a grievous error was committed by continuing the inhalation after anæsthesia was produced, and that it was in consequence of this the accidents so nearly fatal occurred. After anæsthesia has been induced, the object for which chloroform is given is already accomplished, and there can be no use whatever for its farther administration. It is very easy and safe to maintain complete anæsthesia for hours together, by occasionally giving a few inhalations of the vapour when there are signs of approaching return of sensation; but to continue the inhalation without interruption after anæsthesia is fairly established, is most certainly very dangerous, and will, sooner or later, varying according to age and constitution, prove fatal. Anæsthesia or paralysis of the nerves of sensation, is but one of a series of changes produced upon the system by chloroform. Paralysis of the respiratory system is the next, and follows quickly afterwards, and if yet more be taken up, the nerves also of the organic system cease to perform their functions, and the heart in consequence is paralyzed. It is thus only in death that the influence of chloroform ceases. Let it be especially remarked, how precisely analogous the symptoms in the foregoing cases were to those observed in animals under similar circumstances. The respiration ceased for a considerable period before the pulse and artificial respiration being employed, the pulse returned before the respiration was re-established.

"If during the process of the inhalation of chloroform, the breathing and the pulse be carefully observed, at one and the same time, it will be found that no alteration in the frequency or character of the latter occurs, except such as may be fully accounted for by the peculiar excitement into which the patient is thrown, or by the muscular efforts that may be exercised. When first the inhalation is commenced, the pulse is generally more frequent than natural from the mental agitation ordinarily experienced upon such an occasion. Then, as calmness and drowsiness comes on, it falls to its natural standard; but now the period of excitement, as it is called, begins—violent muscular movements are made—and the pulse rises in consequence, and maintains its increased frequency until all efforts cease. When tranquillity is established, it gradually

falls, and as the stupor becomes more and more profound, it still sinks, until at length when every effort of the mind is at rest, and the body lies prostrate and inanimate, it is found to be even below its natural standard; and now it is, that for the first time during the process of the inhalation, the pulse may be relied on to maintain itself steadily and regularly, both in regard to character and to frequency. So long as the respiration continues, the pulse does not vary. I am well aware that this statement may be doubted, but it is nevertheless true, and will be found to be so in every case where the individual is fully under the influence of chloroform. Until anæsthesia is thoroughly produced, it has been shown that the pulse varies greatly in frequency and force, and this is the source of the common fallacy, that the action of the heart is directly influenced by chloroform, whereas its changes depend not on any property of the drug, but altogether upon external causes. It is no uncommon thing to see in the operating theatre of a hospital, the person who has the charge of the chloroform, with his hand constantly on the pulse, carefully noting its changes, and to hear him informing and alarming those around him, by hurriedly saying 'the pulse is very quick and small,' 'it's very slow now, sir,' &c., &c., and well may such information alarm an operator who is not aware that such varieties are perfectly natural, and will always exist until narcotism is fully established. And here again is another source of error, for no sooner has complete anæsthesia been produced, than it is discovered that the pulse is eight, ten, or even twelve per minute below its ordinary average, and so it is imagined the heart is becoming affected, and that the chloroform in consequence must be no longer continued. But during sleep, the pulse is less frequent than in wakefulness, and so it is during the sleep of chloroform, when every movement except those of organic life are in a state of profound repose. This is so constant, that by some it is supposed, and correctly supposed, that anæsthesia is not sufficiently complete for the performance of surgical operations, unless the pulse be below its standard.

"But the pulse should not be taken as any guide during the administration of chloroform. It should be wholly disregarded, except under certain circumstances, when syncope is to be feared from loss of blood, during the performance of capital operations. The pulse is only affected secondarily in consequence of the failure of the respiration. It therefore follows that our attention should be mainly directed to the latter, while the former may be altogether neglected, or at any rate considered as only of secondary importance. By carefully watching the pulse, the attention must in a measure be taken away from the respiration, and exactly to such a degree it is productive of evil; for, in order to guard against mishaps, and at the same time conduct the inhalation with confidence, the breathing must be observed with the greatest care and attention. But when it is thus asserted that death always commences in the organs of respiration, and that the heart only ceases to act in consequence of the lungs having previously failed in the performance of their functions, I would wish to be understood. In the first place, I should be sorry to deny the existence of individuals with such peculiar nervous idiosyncrasy, that the converse of this (the ordinary rule) might obtain. With such an example however I have never met, nor have I ever encountered a single occurrence that would lead me to suppose the heart peculiarly or rather primarily susceptible. In the second place, it must be remembered that if, after respiration has ceased, chloroform in any considerable quantity be absorbed into the system, it will act directly upon the heart and speedily stop its contractions. And thus, if with the last inspiration a sufficient quantity of the pure vapour is inhaled, the movements of the heart will cease almost immediately, and so it might appear that the respiration and cardiac contractions have stopped simultaneously, although in fact a brief interval has existed—an interval, in short, long enough to permit of the absorption of the chloroform taken into the lungs with the last inspiration.

"A peculiar and interesting fact, and one that I am inclined to think may account for many deaths, is, that in some individuals, when fully under the influence of chloroform, the pulse suddenly fails at the moment the first incision is made by the surgeon; and this, too, when the respiration is altogether natu-

ral. The first time I observed this peculiarity was in October 1851—the subject was a sickly emaciated boy, æt. 9, required amputation of the thigh on account of an exhausting disease of the tibia. He was quickly brought under the influence of chloroform, and was breathing well when Mr. Syme transfixed the limb. I had my hand on the pulse, and was carefully watching it. At the moment the knife entered it suddenly ceased, and remained imperceptible for the period of four or five pulsations, the countenance at the same time becoming deadly pale. As it returned it was at first very feeble, but in a few seconds it regained its usual strength. The breathing at the same time was very soft and quiet. Anæsthesia was maintained, and no farther untoward event occurred. The next case was that of a young lady, about 18 or 20 years of age, whose thigh Mr. Syme amputated in November last. Dr. Simpson administered the chloroform, and, after the operation, remarked that the pulse had stopped suddenly just as the knife was piercing the thigh, and had recovered itself with a flutter almost immediately. A third instance occurred soon afterwards on the 10th December, 1851. A woman, æt. 40, of pale emaciated appearance, and nervous excitable temperament, was placed upon the operating-table and inhaled chloroform. She inhaled it well, and was soon insensible, breathing stertorously. Then the operation (amputation of the thigh) was begun, and at the same instant the pulse stopped, and did not return for eight or ten seconds, when it was again felt as very faint and indistinct. It rapidly regained its force, and before another minute had elapsed, was as strong as before the operation. During this occasion the breathing did not flag at all, and had it not been for a slightly increased pallor of the countenance no visible change might have been observed.

"Although I have noticed the pulse at the moment of the first incision in almost every capital operation performed in the Infirmary, and many elsewhere since this period, I have never again detected the slightest variation in its character at this particular moment. It is therefore a very rare occurrence; but that it does sometimes happen, and that it is in some way connected with the injury inflicted upon the system at the moment of its first laceration, appears to me beyond doubt.

"A consideration of this subject might open an interesting topic as to how far shock is prevented by anæsthesia. By most of the advocates of chloroform it is altogether denied as incompatible with the profound stupor of perfect insensibility; and though we must all believe that, in a great measure, it is lessened, and even altogether avoided, we must, I think, at the same time admit that the fact of the pulse suddenly stopping at the moment of the infliction of severe injury, is positive proof that shock may be experienced by the nervous system. For how else can the occurrence of such a phenomenon be accounted for? And again, is there any reason that, because pain is no longer felt, the organic nervous system should be incapable of appreciating the amount of injury inflicted upon the body? The three cases which have fallen under my notice, and which I have just described, have fortunately not been severe. The shock has quickly passed away; the action of the heart has quickly recovered itself; or, in other words, the syncope has lasted only for a few seconds. But it might have been otherwise; the syncope might have been permanent, and death the immediate consequence; or, even had the first syncope been recovered from, so prolonged might have been the effects of the shock that a second or third relapse would have occurred, and death at length resulted. Death under these circumstances is to be attributed to shock arising from the injury inflicted by the knife, and not to chloroform, for it is more than probable the very same event would have happened even although chloroform had not been administered."

"I should be sorry," says Mr. B., "if it were supposed that shock from surgical injury is more likely to occur during anæsthesia than when the patient is perfectly sensible. I believe the contrary much more frequently obtains; and of this I think we have abundant proof in the comparatively few cases of death upon the operating-table of late years, compared with a period before the introduction of chloroform. Moreover, it must be familiar to all, that many

cases can now be safely conducted through capital operations, that formerly would have been deemed unable to bear any surgical interference.

"Before quitting this subject, I must mention a case recorded by a most careful and accurate observer, my friend and former instructor Mr. Paget, of which he remarks: 'It was very observable that the ill effect of chloroform was exercised on the heart more than, and earlier than, on the muscles of respiration.' A man labouring under tetanus inhaled chloroform, and 'was brought under its full influence. I was trying to open his mouth, but the face was still fixed and white; still trying, we saw him become extremely pale, and then bluish about his lips and nose, then he began to breathe heavily and frothed at the mouth, and his pulse, which had been irregular during the inhalation of the chloroform suddenly stopped; his heart ceased to beat, and in a few seconds more he ceased to breathe, became motionless, with his limbs flaccid. He was to all appearance dead, and thus he remained for about a minute and a half, when again his heart began to act, blood returned to his face, and his pulse again became full, when he began to breathe again, and presently he breathed freely.' Such a case, recorded by so trustworthy and accurate an observer, might go far to upset all the doctrines I have been endeavouring to maintain with regard to the action of chloroform; and although I do not attempt to explain the phenomena, I would desire to draw attention to two points in the history, which I think, if rightly considered, will deprive the case of much of its apparent importance. In the first place, then, the patient was suffering at the time from tetanus, a disease characterized by the most violent spasmodic contraction of the voluntary muscles, and sometimes, there is good reason to believe, of the involuntary also; and in the second place, let it be remarked that the pulse stopped suddenly at the time Mr. Paget was trying to force open the mouth.

"If we admit that shock from mechanical injury may sometimes take place during the anæsthetic condition, the importance of always insisting on the horizontal position during the performance of operations while in this state will be evident; for then, if shock, and its consequence syncope, should occur, the danger of its proving fatal will be greatly lessened. But while, for my own part, I feel tolerably confident that syncope, and even fatal syncope, is sometimes produced under the circumstances I have mentioned, I fully acknowledge that, before the fact can be established, more observations must be made, more cases of death accurately observed, and the entire subject more fully and carefully investigated."—*Monthly Journ. Med. Sci.* Sept. 1853.

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73. *Tartrate of Antimony.*—Edinburgh Physiological Society, February 5, 1853. Dr. HALDANE gave the result of some experiments on the urine of a horse, to which large doses of tartrate of antimony had been administered. It was a remarkable fact that doses of an ounce or even larger quantities of tartar-emetic could be administered to the horse for a length of time without producing any effect whatever. In the urine of a horse so treated, Dr. H. had by careful analysis detected antimony, but only in very minute quantity.—*Monthly Journal of Medical Science*, February, 1853. T. R. B.

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74. *Mineral Constituents of the Human Body. Arsenic.*—Devergie and Orfila believed that they had found arsenic in all animal bones, and hence that it should be regarded as an integral constituent of the animal organism. Subsequent investigations have, however, shown that there must have been some fallacy in the method of analysis pursued by these chemists, and that this view is altogether erroneous.

When positive experiments seemed to show that arsenic existed in the bones, chemists thought they had found an explanation of the apparent fact in the circumstance that phosphorus and arsenic are so frequently associated together; if the discovery of Walchner and Shafhault, that the sediment of most chalybeate waters contain arsenic, had then been known, they would doubtless have been regarded as strong additional proof of the presence of arsenic in the animal organism.

Arsenic acts in so noxious a manner on the animal organism, even in the

smallest doses (as we see from experiments with animals), that nature actively eliminates this deleterious substance as rapidly as possible from the body.

Meurer has made experiments on horses (animals which, as is well known, can bear large doses of arsenic), and Von Bibra on rabbits, from whence it appears that most of the arsenic is carried off with the solid excrements. Both observers also found the poison in the urine in no inconsiderable quantity. Of the solid parts of the animal body, the excreting organs, viz. the liver and kidneys, are those in which most arsenic is found; it has, however, also been detected in the heart, lungs, brain, and muscles. Some of these results are confirmed by the experiments of Duflos and Hirsch.

Schnedermann and Knop could detect no arsenic in the bones of a pig which had lived for three quarters of a year in the neighbourhood of the silver works of Andreasberg, where cattle and poultry do not thrive in consequence of the evolution of arsenical vapours.—*Lehmann's Physiological Chemistry*, vol. i. p. 449. Translated by Dr. George E. Day. Cavendish Society Publications.

T. R. B.

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75. *Mineral Constituents in the Human Body. Copper and Lead.*—Both these metals have been found in very minute quantity in the healthy body by Devergie, Lefortier, Orfila, Dechamps, and Millon, and were regarded by these chemists as integral constituents of all the soft parts, as well as of the blood; but it is only recently that any very decisive experiments on this subject have been instituted, and they, at all events, prove beyond a doubt that copper exists in the blood of some of the lower animals, and in the bile of the ox and man.

Millon believed that he had found them in the *blood*, but Melsens has brought forward reasons and even direct experiments against this view. Since, however, the presence of copper in the bile of man and the ox has been determined with certainty, the blood must give traces of this metal even though they be almost inappreciable. Moreover, E. Harless has found copper in the blood and more particularly in the liver of some of the lower animals, viz. the cephalapoda, ascidia, and mollusca. This observer found copper in the liver of helix pomatia; Von Bibra found it in the liver of cancer pagyurus, acanthias, and Zeus, and observed that it stood in an inverse ratio to the iron. Copper was originally found in the gall and bile stones by Bertozzi, and subsequently by Heller, Gorup Besanez, Bramson, and Orfila. I have been equally unsuccessful in demonstrating the presence of copper, either in the human liver or the liver of the frog; in the latter case, my experiment was made on 250 livers; and I have also failed in obtaining any indication of copper or lead in the blood, although I followed Millon's instructions.

There can be no doubt that the small quantities of copper which have been actually found in the fluids of the higher animals are only to be regarded as incidental constituents, while the experiments of Harless seem to indicate that, in the lower animals, the copper stands in an essential relation to the blood-corpuscles..

All the investigations which have hitherto been made seem to indicate the liver as the organ in which deleterious substances, and especially those of a metallic nature, as, for instance, arsenic, lead, antimony, bismuth, &c., are accumulated in order that they may gradually be eliminated with the bile. Hence, even if copper were constantly found in the blood or in the bile, it would afford no reason why we should regard this metal as an integral constituent of those fluids.

As copper has not only been found in many mineral waters (as, for instance, by Will, Buchner, Keller, and Fischer), but often in plants, and even in corn (Girardin), there is no difficulty in accounting for its presence in small quantities in the organisms of the higher animals.—*Lehmann's Physiological Chemistry.*

T. R. B.

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76. *Hydrocyanic Acid.*—This acid never occurs preformed in the animal organism; even in the most varied of the metamorphoses and decompositions which occur during disease, we never meet with either the free acid or a metallic cyanide. This is readily accounted for when we recollect that hydrocyanic

acid, cyanogen, and the metallic cyanides are only produced from nitrogenous substances at a high degree of temperature. But in spite of this, certain physiological chemists have shown no unwillingness to assume that hydrocyanic acid, either in congregation or in combinations, exists preformed in histogenetic substances, or to avail themselves of its formation in the explanation of various chemico-vital processes; in short, to make it take a part in the equations by which they pretend to explain the different stages in the metamorphosis of the animal tissues. We only mention it here, inasmuch as it belongs to the bodies which are produced during the artificial decomposition of animal substances; such, for example, as acetic, valerianic, and œnanthylic acids; we refer to the decomposition of hippuric acid by mere heat, and to the decomposition of histogenetic substances by bichromate of potash or binoxide of manganese and sulphuric acid.—*Lehmann's Physiological Chemistry.* T. R. B.

77. *Poisoning by Atropia applied to the Conjunctiva.*—Hospital Saint Antoine. Service of Dr. CHASSAIGNAC. Thomas Halkering entered the hospital in August last with a double cataract complicated with adhesion of the iris to the crystalline. On the 31st of August, in order fully to examine the condition of the eye, there was poured in its side three or four drops of a solution made with 5 centigrammes of atropine (0.7770th of a grain) in 30 grammes (a little more than an ounce and a half) of water acidulated with acetic acid.

In half an hour vertigo occurred with wanderings of vision. In three-quarters of an hour all the symptoms of poisoning with belladonna were present, flushed face, enormously dilated pupils, and incessant hallucinations. The patient drew his coverings over him, and attempted to seize objects that he saw in the air. On attempting to rise, his legs failed under him, and he could not take two steps without being assisted. His pulse was 120 and full.

In the evening he became more calm, but the bladder was distended, and he was unable to empty it, so that the catheter had to be used.

During the night the delirium was so violent that the strait-jacket was employed.

On the morning of the 1st of September he was tranquil, and answered questions put to him. The tongue was moist, and there was much less appearance of congestion. Stupor and quickness of pulse, however, remained. He rested extremely well during the night, but during the day following hallucinations still recurred with a confusion of ideas; the pupils were still dilated. He urinated freely.

In this way all the unpleasant symptoms gradually disappeared, but it was four days before he perfectly recovered. He had lost all recollection of his illness except his delirium and its accompaniments.—*Gazette des Hôpitaux,* January 18, 1853. T. R. B.

78. *Presence of Antimony in the Organs of the Body.*—Some discussion occurred at a late meeting of the Academy, relative to the experiments of MM. Millon and Laversan on this subject. A case occurring in the service of M. MARCHAL (de Calvi), at Val de Grace, has a bearing on the matter.

A man very weak, labouring under double pneumonia, had been treated on the Rasonen system, with large doses of tartar-emetic, and died on the fifteenth day (eight days after having ceased taking the same). Portions of the liver, kidneys, brain, and blood were submitted to experiment in large receivers. To each was added pure and fuming muriatic acid in the proportion of about one half the weight of the organic matter. The mixture was heated gently in a sand-bath, but not to boiling, and a few hours after same quantity of chlorate of potash was added. Soon after, the materials were filtered, and the substances remaining on the filter were also washed with distilled water.

A plate of tin immersed in the different liquids was soon covered with a black pulverulent deposit, which was antimony; after some hours, this plate was plunged into pure muriatic acid, and the next day the black deposit was dissolved and at the bottom of the vessels. The result was that: 1. The liver furnished a considerable quantity. 2. The kidneys a less one. 3. The blood contained it also, but in very small amount. 4. It was also present in the

brain, but in still less proportion than even in the blood.—*Gazette des Hôpitaux*, February 19, 1853. T. R. B.

79. *Poisoning by Aconite.*—An inquest was held at Bristol, January 15, 1853, to inquire into the death of Emma Forty, an inmate of the Roman Catholic Convent of the Good Shepherd, situated at Arnos Vale, near that city. Deceased had, it appeared, on Monday the 10th administered to her by mistake, by the sister attendant, a deadly poison instead of the medicine prescribed for her, which resulted in her death five hours afterwards. It appeared from the evidence that the deceased was labouring under tape-worm, for which she was ordered, by the medical adviser of the convent, decoction of pomegranate bark and quinia. On going to the dispensary, she took the wrong bottle, and gave, instead of the decoction, a drachm of Fleming's tincture of aconite. Verdict accordingly.—*Medical Times and Gazette*, January 22, 1853. T. R. B.

80. *Hydrosulphocyanic Acid.*—(The history and presence of the acid become interesting, from the fact that some tests of it produce identical results when applied to meconic acid.) This acid does not occur in a free state, but only as sulphocyanide of sodium or potassium. It was discovered by Treviranus in the saliva, and has as yet been discovered in no other fluids. Treviranus named it hæmatic acid; and because he found that it formed blood-red solutions with the persalts of iron, he attributed the colour of the blood to sulphocyanide of iron.

For a very long time it has been disputed whether the ingredients in the saliva, which give rise to this red colour with the persalts of iron, is actually sulphocyanogen. There is scarcely any subject in the whole domain of zoochemistry in which so many experiments have been made with such contradictory results. We believe, however, that no one who repeats the experiments of Pettenkofer can entertain a doubt regarding the presence of sulphocyanogen in the saliva. Pettenkofer especially directs attention to two tests which he discovered for hydrosulphocyanic acid. Solutions of the acetate and formate of peroxide of iron are perfectly decolorized on boiling with alkaline chlorides, while this treatment has no apparent effect on sulphocyanide of iron; farther, it is known that the persalts of iron do not decompose ferridcyanide of potassium; but if we heat a solution of sulphocyanide of iron, hydrocyanic acid is developed, and there is a precipitate of Prussian blue. Pettenkofer applied this treatment to the alcoholic extract of the saliva, and thus ascertained the presence of sulphocyanogen. Other chemists had previously made use of a test that had been discovered for the sulphocyanides, viz. a mixture of two solutions of sulphate of protoxide of iron and sulphate of oxide of copper (when subsulphocyanide of copper is precipitated), with the view of detecting this substance in the saliva. The alcoholic extract of saliva is free from sulphuric acid (for the sulphates are insoluble in alcohol); hence, Pettenkofer thought that he might make a quantitative demonstration of the sulphocyanogen in the saliva, by oxidizing the alcoholic extract with chlorate of potash and hydrochloric acid, and precipitating the sulphuric acid that was formed by chloride of barium.

Sulphocyanogen is almost always in human saliva; it is, however, occasionally absent without any apparent physiological or pathological reason. It appears to be wanting in the secretion during salivation from any cause; at least, I could never detect it during the ptyalism following the use of mercury or iodine, or occurring in the course of typhus or other diseases.

Sulphocyanogen occurs also in the saliva of the dog and the sheep. I have examined the saliva of four horses without detecting any traces of it. Wright, however, asserts that it occurs in the saliva of that animal.

Considering the extremely small quantity in which it occurs, and that it is often absent without any apparent bad consequence, it seems hardly probable that the alkaline sulphocyanides take any definite part in the process of digestion.

I have noticed several healthy, vigorous young men, whose saliva contained no sulphocyanogen, and yet who enjoyed the best digestion.

It would be very easy to explain, by chemical formula, how sulphocyanogen might be formed from the histogenetic substances; but, unfortunately, we as yet possess no facts to confirm us in the establishment of any particular chemical equation; it is better, therefore, frankly to confess that we know absolutely nothing regarding the place or the mode in which sulphocyanogen is formed in the animal organism.—*Lehmann's Physiological Chemistry*, vol. i.

T. R. B.

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81. *Phellandrium Aquaticum.*—The synonyme of this is Œnanthe phellandrium. Lindley (*Flora Medica*) observes on it: "Poisonous like the last (œnanthe crocata), but in a less degree." Alfred Taylor (*On Poisons*) says the same, and adds: "The poisonous principle is unknown."

It now appears that this principle has been discovered by M. Hutet, an apothecary at Lyons. He names it *phellandrine*, and procures it from the seeds, which contain an average of two or three per cent. of it. Seven and a half grains of it injected into the veins of a dog produced, in a few instants, difficulty of respiration, nervous tremblings, and anxiety, lasting some hours. He, however, recovered; but two birds, into whose beaks the same dose was introduced, died in fifteen or twenty minutes.—*New York Journal of Pharmacy*, April, 1853, from *Bulletin de Thérapeutique.* T. R. B.

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82. *New Method of Analysis for the Detection of Organic Poisons.* By C. Flandin.—(The following is an extract from his *Memoir*):—

We are all aware of the facts respecting inorganic poisons. They are found (so to speak) everywhere—not only in the organs of the body where they have been taken or applied, whether internally or externally, but even in the most distant organs to which they have been carried by absorption. They are found not only in the dead body immediately after death, but ten years or more thereafter they can be traced in the remains of putrefaction and in the soil of graveyards.

Do the same facts hold as to organic poisons? In the concluding part of my *Treatise on Poisons*, now in the press, I have shown: 1. That poisons are substances that do not assimilate. 2. That they penetrate the organs by absorption. 3. That they act by *action de presence.*

If these principles be correct, it follows that all poisons may be found in those organs of the human body with which they have been placed in contact, or to which they have been carried by absorption.

A high authority in toxicology (Professor Christison) has made the following remark: "It may be laid down, therefore, as a general rule, that, in poisoning with opium, the medical jurist, by the *best methods of analysis* as yet known, will often fail in procuring satisfactory evidence, and sometimes fail to obtain any evidence at all of the existence of the poison in the contents of the stomach."

Now, these best methods of analysis, spoken of by Professor Christison, consist (not to go into too minute detail) in treating the suspected substances with acetic acid or alcohol, filtering the liquor, evaporating it to the consistence of an extract, dissolving this extract in pure or acidified water, decolorizing with animal charcoal, or precipitating (as the case may be) the animal matters with different reagents, as subacetate of lead, sulphydric acid, nitrate of silver, nut-galls, alcohol, &c., and when the active principle of opium (morphia) is to be sought for, to apply to it such tests as nitric acid and the perchloride of iron.

What are the results of these methods of analysis in cases of poisoning? Absolutely none. When an expert recently inquired of a celebrated French toxicologist, what mode he should pursue to detect vegetable poisons, the reply was, *all research is useless.* Yes, all research will be useless if we continue to pursue the present methods. They neither isolate the poison; they do not act on it directly by tests; and, therefore, they cannot prove its characteristic properties.

In examining this subject, particularly in reference to the nature of animal matters, I find they may be arranged into, 1. Proteic or albuminous matters.

2. Colouring matters. 3. Fatty matters. Now, the first (albuminous matters) are easily coagulable, and in this state become insoluble in water, alcohol, the acids. Coloured or colouring matters are readily modified by various acid or alkaline agents, as anhydrous lime or barytes, not to speak of the power of heat. Lastly, fatty matters are readily separated from all others by two grand agents in chemical analysis, alcohol and ethers.

When an inorganic matter is mixed with organic matters, nothing is more simple than to discover it. The organic matter is burnt off, or the inorganic is made to pass into a compound soluble state with charcoal, and is then extracted by water. The process of carbonization or incineration by sulphuric acid has been communicated by M. Danger and myself to the Academy, as the best mode of examining for mineral poisons.

If the body, from which it is desired to separate animal matters, be itself combustible or capable of being essentially modified by heat, what then are the means of separating it so as to ascertain its poisonous properties? We reply that, under 100 degrees, heat coagulates proteic matters, and which hence become insoluble in water, alcohol, and the acids—that anhydrous lime and barytes produce the same effect; and, besides, they greatly modify coloured or colouring matters—and that alcohol and ethers have a special affinity for fatty matters, and may respectively serve to isolate these, and also wax and the resins.

These facts being established, and experiment having shown that most of the organic principles are unalterable at 100 degrees, the following method is proposed to separate the organic alkaloid bases (as morphia, strychnia, brucia, &c.) from animal matters:—

Process.—Mix the matter in question in the proportion of 12 to the 100 of its weight of anhydrous lime or barytes, and rub them down together in a mortar; heat to perfect dryness, but not to exceed 100 degrees; treat the powdered matter, at least three times successively, with anhydrous boiling alcohol; and, on cooling, filter.

The liquid thus obtained is almost without colour; it contains the principle or principles sought for, and also fatty or resinous matters soluble in alcohol.

Distil, or evaporate slowly by alcohol, and treat the dry and cold residuum with alcohol so as to remove the fatty matters. If the principle sought for is insoluble in ether (as morphia, strychnia, brucia), it remains isolated in the liquid, and can be separated by filtration and even simple decantation. If it be soluble in ether, then the principle must be obtained by a special solvent of the organic bases, as for example acetic acid, and precipitate the base finally by ammonia. The chemist in charge must adapt his tests to the supposed substance. I submit only the general method.

I have mixed with 100 grains of animal matter a grain or even less of morphia, strychnia, and brucia; and, operating on the mixture in the manner described above, have collected from the mixture ponderable portions of the above poisonous principles. Again, I have added to the animal matters rough opium, laudanum, a decoction of nux vomica, false angustura, &c., and have isolated by this method the poisonous principle perfectly pure.

In order to satisfy myself of the satisfactory application of it to legal medicine, I have poisoned animals with the smallest required doses of opium, morphia, nux vomica, strychnia, false angustura, and brucia, and it was always possible to detect the poison in the contents of the stomach and intestines, and sometimes, indeed, in the organs to which it had been carried by absorption.

In a special experiment, I mixed two parts and a half of morphia with one hundred of meat, and abandoned the compound to putrefaction for two months. At the end of that time, using the method above described, I discovered a notable proportion of morphia.—*Comptes Rendus*, March 21, 1853. T. R. B.

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83. *Method to remove the Poison from Toadstools.*—To do this, GERARD macerates one pound of them with two or three tablespoonfuls of wine vinegar for two hours, and then washes them well with water; after which he boils them in water from fifteen to thirty minutes, and again washes them, and prepares them for the table in the ordinary way. Gerard ate, in the presence of a

commission appointed by the French Government, one pound of the poisonous fungi, *amanita muscaria*, and upwards of two ounces of the *amanita bulbosa*, prepared in the manner described, without any evil consequences arising to his health.—From *Journal de Pharmacie*, in *Annals of Pharmacy*, October, 1852.
T. R. B.

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84. *Poisoning by Aconite* at Glasgow.—In January, 1853, Mr. Brown, of the well-known firm of Brown & Love, feeling himself slightly unwell, called at one of the oldest and most respectable establishments in the city, where a medical student, a friend of his, was attending. This friend prepared for him a dose of tincture of aconite, and gave him twenty-five drops, the usual dose being from five to eight drops. Shortly after taking it, he felt its effects, and went away, but returned in about an hour. The head druggist was now in, and perceiving symptoms of approaching paralysis and other effects of the poison, put him in a cab, and sent for Dr. Laurie, who prescribed for him, but did not apprehend any immediate danger. Mr. Brown, however, became worse, and died at 10 o'clock, probably four hours after taking it. The student had read in some French book that twenty-five drops were a dose, but the British tincture is much the strongest.—*Pharmaceutical Transactions*, February, 1853.
T. R. B.

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85. *New Test for Nitric Acid and the Nitrates.* By Edmund W. Day, of Dublin.—To the solid or liquid supposed to contain nitric acid, free or combined, add a few drops of a strong aqueous solution of ferrocyanide of potassium (yellow prussiate of potash), then some pure muriatic acid, mixing the ingredients well together both before and after the addition of the acid, and gradually raise the temperature of the mixture to about 160° Fahr., or in some cases it may be necessary to raise it a little higher. Let it cool, and then neutralize with carbonate of soda or potash, a slight excess of either being of no consequence. Filter, if there is much precipitate, and finally add to the fluid a drop or two of a solution of either sulphuret of ammonium, sodium, or potassium, when, if nitric acid were present, a fine purple or violet colour will be produced, which, however, is not permanent, but soon disappears.

In using this test, employ the following precautions: 1. Not to dilute the materials much, as the acid is required to be tolerably strong to produce the necessary reaction. The muriatic acid I employ is of specific gravity 1.15; if a much weaker acid is used, the results will not be satisfactory. 2. If the nitric acid or nitrate be in a very minute quantity, the mixture of it with the ferrocyanide and acid should be allowed to cool to the ordinary temperature before the alkaline carbonate is added; much excess of this last should be avoided, as, at a temperature of 100°, it begins to decompose the nitroprusside, on *the formation of which the test depends.*

As to its delicacy, I have detected by its means the nitric acid in the one-two-hundredth part of a grain of nitre; and with one-hundredth part of a grain the effect is very striking. Its efficacy, too, seems scarcely impaired by the presence of a number of substances whether of mineral, vegetable, or animal origin, as by it I readily detected the presence of nitric acid in mortars taken from old buildings, also where that acid or its salts were added in small quantity to soils, sulphuric or muriatic acid, tea, porter, milk, &c.

When no nitric acid is present, the mixture quickly becomes of a blue colour, but where that acid exists, it becomes first of a yellowish green, then of an olive or dark brown; but these indications alone are not sufficient to prove the presence or absence of nitric acid until afterwards confirmed by the action of an alkaline sulphuret. In heating the mixture, the temperature stated should be maintained for a few moments till it cease to acquire a darker shade, thereby indicating that all the nitroprusside is formed.—*London, E. and D. Philosophical Magazine*, May, 1853.
T. R. B.

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86. *Examination of the Human Milk in Legal Medicine.*—Edinburgh Philosophical Society, March 19, 1853. Mr. Mercer Adam called the attention of the Society to a new and important use of the microscope in legal medicine.

He remarked that there were few cases in medical jurisprudence more difficult to decide than whether, after a few weeks had elapsed, parturition had occurred recently or at a remote period. In such cases of doubt, where delivery is circumstantially believed to have recently occurred, but where all the physical signs may, with equal propriety, be reckoned evidences of this having been at a remote period, he believed that the detection of colostrum-corpuscles in the milk would at once decide the question, and almost with certainty prove the delivery to have been recent. In illustration of this, he cited the following case, which had recently come under his notice: The body of a newly-born child, much decomposed, was found in a moss in the south of Scotland. It was impossible to decide *secundum artem* whether it had been born alive; but it appeared to have been dead for four or five weeks. Proceedings were taken to discover the mother, and suspicion fell on a young woman who was supposed to have been secretly delivered about four or five weeks previously—that is, about the same date as the infant was thought to have been exposed. On being arrested on the charge of concealed pregnancy, she said she had had a child a year and a half before, which she had nursed until within three months of her apprehension, and firmly denied having been recently delivered. The two medical men, who were judicially appointed to examine her, came to different decisions, so equivocal were all the signs as to the period which had elapsed since her delivery. A microscopic examination of her milk was suggested, and it was found to abound in colostric globules. This decided the *questio vexata*, and showed parturition to have lately occurred. The girl, on being told that imposition no longer availed, confessed having recently given birth to a stillborn child, thereby confirming the accuracy of the revelations of the microscope. Mr. Adam considered that in such cases the microscope was likely to be as serviceable to the medical jurist as it was in the detection of blood-globules, spermatozoa, &c.—*Monthly Journal of Medical Science*, May, 1853. T. R. B.

87. *Opianine.*—This alkaloid occurs in Egyptian opium, and which kind has less morphia in it than the other kinds of commercial opium.

It is separated from morphia by repeated crystallizations from alcohol. It is crystalline, inodorous, soluble in alcohol, and the solution has a strong, persistent, bitter taste, insoluble in water. It is not changed by concentrated sulphuric acid, but dissolves in nitric acid with a yellow colour. Opianine forms crystalline double compounds both with chloride of platinum and corrosive sublimate.

Operation.—Opianine is a narcotic, which, as far as has yet been ascertained, resembles morphia in its effects. Two cats of equal size and each six months old were operated upon. 0.145 gramme (just above a grain) of pure morphia was given to one, and the same of opianine to the other. The same effects were produced in both cases. In eight minutes, the pupil of both was so enlarged that scarcely anything was to be seen of the iris; the pupil was grass-green, and shone brightly; the eyes were motionless. At first they walked about without any fixed object, with the tail drawn in, and with foam hanging from the mouth; their steps afterwards became uncertain, they began to tremble, vomited, dragged their hind legs after them, began to cry pitifully, and laid themselves down on their bellies, which were much swollen and generally on their left side. They paid no attention to their names, although at other times they would come immediately on being called; were insensible to ammonia held to them, and took no part in the gambols of the other young cats which were jumping about them. At the end of an hour, the cat to which the morphia had been given had somewhat recovered herself, and ran quickly away when any one attempted to touch its belly, which was much swollen. At the expiration of a day, during which they had taken no nourishment, they both recovered.—*Dr. Hinterberger*, in *Chemical Gazette*, December 1, 1852. From a German Journal. T. R. B.

88. *Kakodyle of Valerianic Acid.* By Dr. O. W. Gibbs.—When valerianate of potash is distilled with an equal weight of arsenious acid, a heavy oily liquid passes over into the receivers, slightly yellowish in colour, and possessing a

penetrating and highly offensive odour of garlic. With a solution of chloride of mercury, this liquid gives a thick white precipitate, while the odour of garlic disappears, and is replaced by an agreeable aroma, like that of valerianate of oxide of amyle. The oily liquid gave off thick white vapours in the air, but did not inflame. Exposed for some time in the air in an imperfectly closed glass vessel, it became completely converted into a mass of large, brilliant, hard, four-sided prisms, which were nearly colourless, and after pressing with bibulous paper, free from smell. They had an acid reaction, and may have been the valerianic compound corresponding to kakodylic acid. These crystals were readily soluble in water. In an attempt to unite them with oxide of silver for the purpose of determining their constitution, they were completely decomposed. The oily liquid obtained by the distillation above mentioned was soluble in water, and appeared to reduce oxide of mercury to the metallic state. It will be seen that the reactions of the substance in question in all respects resemble those of the butyric kakodyle obtained by Wöhler, and exhibit much analogy to those of the acetic kakodyle of Bunsen. The offensiveness of these compounds to non-chemical noses belonging to persons occupied in the same building with the writer has hitherto prevented a farther investigation of this subject.—*Silliman's Journal*, vol. xv. New Series. T. R. B.

89. *The Dose of Tincture of Aconite.* (From a correspondent.)—In the last number of the *Pharmaceutical Journal*, you have very properly repeated your observations on the embarrassment and danger of there being several formulæ for the *tinctura aconiti*. But I would in addition call your attention to the very various and conflicting opinions as to the dose in which the tincture ordered by the London College should be administered. You say that the dose is from one to five drops, and that eight drops have been known to produce rather alarming effects. But Mr. Squire gives the dose as from seven to ten minims; Mr. J. Denham Smith, in his translation of the Pharmacopœia, in one place, from two to ten minims; in others, from one to six minims; while Dr. Nevins actually states it to be from three to fifteen minims, "or even *more*."—*Pharmaceutical Transactions*, March, 1853. T. R. B.

90. *Hypochlorite of Magnesia as an Antidote for Phosphorus.* By A. Bechert.—Orfila has recommended the use of calcined magnesia as an antidote, but Duflos and Meurer have shown that it is ineffective. Duflos proposed the employment of a mixture of one part calcined magnesia and eight parts of chlorine water, that is to say, hyperchlorite of magnesia with free magnesia. Bechert has recently made some experiments to determine the value of this remedy in cases of poisoning with phosphorus, and obtained the most favourable results. A grain of phosphorus given to each of two rabbits caused the death of one in a few hours, and produced no effect on the other to which the antidote was administered.

With regard to the mode of action, Bechert is of opinion that it consists in the decomposition of the phosphuretted hydrogen generated in the stomach.—*Pharmaceutical Transactions*, June, 1853. T. R. B.

91. *Entrance and Exit of a Musket-ball.*—When a musket-ball passes fairly through the cavity of the chest, the orifice of entrance is round, depressed, dark-coloured, and more or less bloody in the first instance; the orifice of exit is generally more of a ragged slit or tear than a hole.—*Guthrie*, in *Lancet*, April 2, 1853. T. R. B.

92. *Wounds of the Diaphragm.*—Three cases confirm the fact I was the first to point out—that wounds of the diaphragm, whether in the muscular or the tendinous part, never unite, but remain with their edges separated, ready for the transmission between them of any of the loose viscera of the abdomen which may receive an impulse in that direction.—*Guthrie, Lancet*, April 16. 1853. T. R. B.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

Abnormous Smallpox. By RICHARD MCSHERRY, M. D., Surgeon U. S. N.—Mr. A——, æt. 28, shipping-merchant, of this city, five weeks married, complained of serious indisposition (a violent cold, he said) on Monday, January 13, 1851. His bowels were torpid; stomach irritable; he had severe pains in head, back, and limbs. He took no remedy, but on Tuesday morning went as usual to his counting-room, until, finding himself ill, he returned to his house, and sent for his family physician. As there had been no known exposure to smallpox, that disease was not thought of until on the following day, when a suspicious eruption began to make its appearance, which was pronounced by the physician to be varioloid.

On Saturday morning, between three and four o'clock, I was called to see Mr. A——, in consultation with Dr. Hitch, the regular attendant, and Dr. R. S. Steuart, who is well known as one of the most eminent physicians of this city. We found the patient prostrate and restless, the pulse at the wrist imperceptible, the heart's action exceedingly feeble, and much obscured by the unusually clear, strong, respiratory sound in the adjacent lung. We learned that the prostration was first noticed about midnight, after moderate evacuation of the bowels. The previous day (Friday) he had appeared dejected and listless, though without apprehension as to the final result; he expressed himself as feeling better, or at least now free from pain.

His face remained free or nearly free from eruption, but on the arms, stomach, legs, and thighs, there were forming pustules in different stages of development, with a general duskiness of the surface.

We gave him immediately wine whey; and camphor and ammonia, repeated at short intervals, under which the pulse rose for a short time, so as to inspire a ray of hope that he might yet be restored. His mind remained perfectly clear, except for occasional momentary wanderings. On account of the duskiness of the skin, we added lemonade to the other remedies. At 10 o'clock, Dr. John Buckler was added to the consultation. The patient was evidently sinking, and about this time he excreted some bloody mucus from the mouth, and passed blood also from the bowels.

Dr. Buckler observed that his condition was like that of advanced purpura hemorrhagica; he, therefore, recommended frequent doses of turpentine and a solution of quinia with elix. vitriol, with continuance of the wine-whey, beef-tea, &c. The powers of life, however, had utterly failed; we gave these remedies, and finally brandy, but at a few minutes after twelve our patient sunk gently into the repose of death. This was on the fourth day from the first appearance of the eruption; the sixth from first symptoms of attack. As a case of SMALLPOX merely, that disease did not appear at all to have been sufficiently severe to have brought about so early and so fatal an issue; here was death by asthenia in a case of varioloid or variola, which had assumed a typhoid form. From the colour of the surface and the dejection of blood, that fluid had probably become disintegrated, and the life-force failed in the effort to develop the eruption. There had been no depletive treatment to bring about this low condition; the patient had taken only some mild mercu-

rial aperient with a little magnesia, and had used solution of morphia for relief of pain. The blood passed from the bowels was thrown off, no doubt, from the congested mucous membrane, while that from the mouth was from the fauces or perhaps from the right lung, where congestion or obstruction may be inferred from the undue respiration of the left side, which was noticed incidentally, while listening for the sounds of the heart. The decubitus was with an inclination to the right side, but no examination was made, as our only object at the time was to sustain the failing circulation.

Mr. A—— was a free liver, but of temperate habits except in the immoderate use of cigars, which during the last five weeks of his life he had, however, in a good measure abandoned. During these weeks he had been out very frequently at night, in company, and thus passed from heated rooms and midnight feasts to the cold night air, and this too during the incubation of his fatal disease. His occupation required frequent visits to the shipping in this port as well as in New York and Philadelphia; it is supposed that he took the infection on board of some vessel. He had been vaccinated in early childhood.

The body was not examined.

A case strikingly analogous to the above is recorded in the January (1852) No. of this Journal, by Dr. Squibb, of the Navy, in the *Report of the Cruise of the Cumberland Frigate.* A midshipman died of a typhoid form of fever. A general livid eruption appeared over the surface some thirty-six hours before death. There was passive hemorrhage from the bowels for several hours before death; and hemorrhage from leech-bites over the epigastrium could not be stopped even by the actual cautery. Four days after the death of this young officer, a variolous epidemic made its appearance, commencing with two passed midshipmen, and a drummer boy, who slept near the midshipmen's apartment, and near the door of the boatswain's room where the fatal case had been nursed.

"There was no difference of opinion," says Dr. Squibb, "among the medical officers, when the midshipman died, as to the typhoid or typhus character of the disease." In reviewing the case, however, and considering it in connection with the variolous epidemic which immediately followed, he came to the conclusion that the fatal case was variolous.

In both of the above cases, we may suppose there was, from remote causes, predisposition to typhoid disease, and that the variolous seizure came to an irregular and unhappy termination, not so much by its own virulence as by the predisposed condition of the patients. In both, the variolous fever became typhoid so early as to arrest or prevent the development and course of the variolous disease. Few cases, comparatively, of smallpox are fatal during the first week of the eruption; in the *Cyclopedia of Practical Medicine*, a table is presented from the records of the Smallpox Hospital, London, in which, out of 168 fatal cases, 32 deaths occurred during the first week, 99 during the second, 21 during the third, and sixteen during the fourth; and in examining into the causes of death at the different periods, it is stated that, "prior to the maturation of the pustules, that is, between the second and seventh days of the eruption, patients die of malignant fever; of that peculiar condition of the fluids and nervous system to which the name of *acute malignancy* may properly be given." Mr. A—— died on the fourth day of the eruption (5 out of 168 died on that day, according to the table) with the nervous prostration and diseased condition of the fluids which mark the malignant form of the disease; the early death of the other case, with the passive hemorrhage and livid surface, before any distinctive eruption made its appearance, shows the same malignancy, or, perhaps, the same adynamic, ataxic predisposition

which has no essential connection with variola, but which might have been developed as well by any attack of fever, *specific or non-specific.*

Vaccination and Smallpox, in regard to the Child-Bearing Woman, and the Fœtus in Utero. By RICHARD MCSHERRY, M. D., Surgeon U. S. N.

Dr. Steuart mentioned a case to me, which had come under his observation, where a woman eight months gone with child was vaccinated after exposure to the contagion of smallpox. She escaped the disease, but her child, born two weeks later, was covered with the confluent form, and died within an hour after its birth.

A singularly opposite case observed by Dr. Hennen (see affinities and prophylaxis of variola in the January (1852) No. of this Journal) is casually mentioned by Dr. Dendy. "A woman was delivered while suffering from confluent variola; the infant was vaccinated a few hours after birth. The mother died on the 11th day; the infant had true vaccine and lived." There is no uniformity as to the fœtus taking or escaping the disease in the mother; in the case just cited it had escaped altogether, or possibly *during incubation;* the vaccine disease superseded the slower attack of the variola. The late Dr. Smith, of this city, vaccine agent and physician, who probably performed more vaccinations than any other man in this country, assured Dr. Steuart that he had repeatedly inserted vaccine and variolous matters in the same person at the same time, and that the cowpox *uniformly* took first possession, and entirely superseded the smallpox. It is by no means uncommon for vaccination to exert a restraining influence over the more formidable disease when practised during its incubation, some interesting cases of which are recorded by Dr. Young in the October (1851) No. of this Journal. In the same number, a case is recorded by Dr. Gibbs, in which variolous inoculation was practised three days after a doubtful vaccination (the scab was several years old), but the vaccination held its vantage-ground, ran its course, and rendered the inoculation abortive.

The fœtus does not take necessarily the form of disease under which the mother labours; it may take the disease through her, after exposure, while she escapes entirely. Dr. Mead, it appears, was of opinion that, where a mother passed through an attack of variola without aborting, the child remained protected through life. The opinion may be fanciful, but the following case, related by Dr. Storer, to the Boston Society for Medical Improvement, gives it some support. Dr. S. attended a lady through a severe attack of variola in the eighth month of pregnancy. He dreaded miscarriage, which did not occur. Five weeks and four days from the appearance of the eruption he delivered her of a fine healthy child, upon which he expected to find some marks of the infection. It was, however, perfectly free from them. He afterwards vaccinated the child *twice* with perfect virus, not yet dried upon the quills, but both times unsuccessfully.

Case of Blighted Fœtus retained to Full Period. By THORNTON K. WOOSTER, M. D., of Winchester, Iowa.—On the 3d day of April, 1853, I was called to Mrs. S——, æt. 43, the mother of several children. She had been suffering from considerable pain in the uterus for several days, which had this morning become very severe. She now experienced severe labour-pains, according to her expression, although she did not believe herself pregnant. There was a discharge per vaginam of a fluid much resembling the menstrual fluid. On more particular inquiry I learned that nine months previously she had cohabited, and she positively declared that she had no connection with any man after that time. For some time after this connection she believed

that she had become pregnant; her abdomen began to enlarge; her menstrual discharge ceased; and everything indicated a state of pregnancy. Matters continued thus until the expiration of about four months, when, after some labourious exertion, she experienced severe and lancinating pain in the region of the uterus, which continued more or less for some days, and then entirely ceased.

From this time she noticed that her abdomen ceased to enlarge, and in fact did not seem to be so large as it was previously. She now believed that she had not been pregnant, but that the *turn of life* had come on at the time she had ceased to menstruate. She after this continued in her usual health, and had engaged in her ordinary occupation until the morning I was called in.

Upon a vaginal examination, I found the mouth of the uterus slightly dilated and low down. A violent pain came on, when a dead fœtus was expelled, of apparently four months, and shortly after the placenta; both in a state of putrescence. The length of the fœtus was five inches, and weight four ounces—the limbs were all developed—and it seemed a well-formed fœtus.

As the patient declared she had become connected with no man after the first cessation of her menstrual discharge, we have no reason to doubt that she conceived at that time; and that the death of the fœtus took place at the period she first experienced the pain in the uterus, four months after conception.

The dead fœtus was consequently retained for the term of five months in the uterus, and at the expiration of nine months after she first conceived, "which is the regular term of gestation," was expelled by a natural labour.

Chronological Table of Medical Writers. (Communicated by Professor C. D. MEIGS.)

SIR: The following chronological table of medical writers was copied out, many years ago, from the side notes in René Moreau's *Treatise de Sanguinis Missione in Pleuritide*, 12mo., 1622. The arrangement of these chronological facts in tabular form renders them convenient for reference; and, as Moreau's opinions on medical chronology and biography are esteemed very reliable, he being frequently referred to as one of the highest authorities, I beg you to consider whether this table is worthy of a place in your valuable journal. Moreau's book is now an exceedingly rare one, and your American readers may perhaps feel obliged to you for laying the abstract before them. I, as a subscriber, should be glad to have it in print.

I am, very respectfully,
Your obed. serv't,
C. D. MEIGS.

Dr. ISAAC HAYS.

GREEKS.	Podalirius, A. M.		2830
	Asclepiades, B. C.		63
	Archigenes, A. D.		120
	Galen,	*circa*,	140
	Aretæus,	*circa*,	150
	Stephanus Atheniensis		00
	Absyrtus,	*circa*,	330
	Oribasius,	*circa*,	330
	Aetius,	*circa*,	350
	Alexander Trallianus,		360
	Paulus Aegineta,		380
	Nonus,		950
	Actuarius,		1100
	Nicolaus Myrepsus,		1200

ROMANS.	AureliusCorneliusCelsus,	20–30
	Octavius Horatianus	400

ARABIANS.	Evax, King of Arabia, *cir.*,		50
	Isaacus, *Judæus*,		660
	Serapion,		742
	Avenzoar,		872
	Rahses,	*circa*,	966
	Avicenna,		982
	Messue,		1150
	Rabbi Moses,	*circa*,	1160
	Averrhoes,	*circa*,	1170

Constantinus Africanus,	1080	Johan. Tagantius,	1544
Johannes Platerus,	1300	Leonardus Iacchinus,	1545
Petrus Aponensis, *obiit,*	1305	Camillus Thornarius,	1545
Bernardus Gordon,	1305	Franciscus Cassanus,	1546
Nicolaus Florentinus, *obiit,*	1312	Hieronymus Cardanus,	1547
Gentilis Fulginensis, *circa,*	1312	Joan. Fernelius, *circa,*	1548
Arnoldus Villanovanus,	1340	Amatus Lusitanus,	1549
Guido de Cauliaco,	1363	Gul. Rondeletius, *circa,*	1550
Valescus de Tarento,	1380	Victor Trincavelli,	1551
Matheus de Gradibus,	1400	Hieron. Capivacci,	1552
Galeatias de St. Sophia,	1400	Joan. Crato,	1554
Jacobus de Partibus, *circa,*	1423	Gabriel Fallopius,	1555
Johannes Arculanus,	1430	Franciscus Valesius, *circa,*	1556
Hugo Senensis, *circa,*	1438	Christoph. a Vega, *obiit,*	1556
Marcus Gattinaria Ticinensis,	1440	Donat. Anton. ab Altomari, *cir.,*	1558
Barthol. Montagnana,	1440	Johan. Argenterius,	1559
Antonius Guaynerus,	1440	Laurentius Imbertus,	1560
Johannes de Tornamira,	1450	Jac. Hollerius Stempanus,	1562
Joh. Mich. de Savonarola,	1440 ad 1480	Johan. Jac. Wecherus,	1562
		Thom. Roder. a Wiega, *circa,*	1562
		Johan. Corvinus,	1562
Sillanus de Nigris,	1490	Nic. Rorarius,	1563
Alex. Benedictus, *circa,*	1500	Johan. Wierus,	1564
Clemens Clementinus,	1505	Conrad Gesner,	1564
Joannes de St. Aegidio, *circa,*	1512	Thomas Erastus,	1564
Petrus Brissot, *circa,*	1514	Nic. Monardis,	1565
Mathæus Curtius,	1526	Hieron. Mercurialis,	1565
Andreas Thurinus,	1526	Andreas Cæsalpinus,	1569
Ceasar Optatus,	1527	Vidus Vidius,	1570
Leonardus Fuchsius,	1528	Lud. Mercatus, 1570 ad	1600
Joannes Manardus,	1529–31	Johan. Guintherus,	1574
Hieremios Thriverus,	1532	Alex. Massaria,	1580
Symphorianus Campegius,	1532	Leonardus Botallus,	1582
Sebastianus Montius,	1532	Jacobus Douynetus,	1582
Benedictus Faventinus,	1534	Salceus Selanus, *circa,*	1586
Gulielmus Puteanus,	1534	Lud Duretus, *circa,*	1586
Donatus a Mutiis,	1536	Hercules Saxonia,	1590
Franciscus Emericus,	1537	Prosper Alpinus,	1591
Jul. Cæs. Scaliger,	1538	Joan. Riolanus,	1598
Andr. Vesalius,	1539	Andreas Laurentius,	1599
Johan. Bapt. Montanus,	1540	Joh. Heurnius,	1611
Martinus Akakia,	1541	Julius Guastavinus,	1614
Dionysius Fontanonus,	1542	Petrus Vascus Castellus,	1616
Ludovic Pannizza,	1543		

DOMESTIC SUMMARY.

Yellow Fever Epidemic of 1853 *in New Orleans.*—About the 26th of May last, the first case of yellow fever entered the Charity Hospital, and after death black vomit was found in the stomach. The first fever cases originated among the shipping along the Levee, in the Fourth District, from which point it extended rapidly through the adjacent portion of the town. A large population of unacclimated persons, living in wooden huts, with floors and timbers soaked in

water, and half decayed, were seized with the disease in the most malignant form. For some time previously rain had fallen almost daily, and this, added to a hot, burning sun, seemed to give strength to the poison, and lent intensity to the disease. The streets in this vicinity, for the most part, were unpaved, or planked, and the culverts, gutters, etc., were filled with water, saturated with filth and decaying vegetable and animal matter. The crowded state of these huts and low wooden tenements, with their floors steeped in mud and water, is admirably calculated to generate and propagate the germ of a disease which had already been sown in their midst.

The habits of these people (being chiefly Irish and German labourers), notoriously negligent and filthy, and utterly indifferent to all those precautionary measures which a limited knowledge of the laws of hygiene should suggest, served only to add fuel to the conflagration which was destined to extend its ravages to every portion of our devoted city. Hence, for some time, the yellow fever confined its work of death within particular localities; but, by and by, gaining strength by what it fed upon, it began to travel to other and more distant points—to extend its arms, so to speak, in every direction, until it grasped the Four Districts within its deadly embrace. For some time the hope was entertained that those who paid proper regard to personal comfort and cleanliness, who dwelt in high, airy, and well-ventilated apartments, might escape the disease; but this proved a delusion. It soon became apparent that, as heretofore, the epidemic fever was no respecter of persons; the master was stricken down with the servant, the mistress with the maid, the proud and wealthy were brought to a level with the humble and needy. All who had not passed through some one of our epidemic seasons were exposed to attacks from the disease. As has been already mentioned, the fever made its appearance in the latter part of May, at least a month and a half earlier than usual, and, from the first case up to the present, it steadily increased almost daily, until the mortality per diem exceeded that produced by any epidemic known in the annals of our sanitary history. In recording the fearful ravages of the present epidemic, we must not forget that we have remained exempt from any such visitation since 1847; and during this time an immense population of unacclimated persons, both from Europe and the north-western part of our own country, have been accumulating in our city. The number of unacclimated persons in the city, at the breaking out of the epidemic, has been estimated at 30,000 souls; but many of these, it is fair to suppose, have left the city to escape the disease.

The type of the epidemic differs but little from that to which we have been subject in former years, and the belief that persons had died of the disease in six and eight hours from the moment of seizure can readily be explained by a better knowledge of the antecedent history of the case; for, on inquiry, it would generally be found that such individuals have had slight fever, and other symptoms of the epidemic, for two or three days previously to taking their bed and calling in medical aid. This surmise gains additional strength from the fact that the attack, in many instances, has been so insidious and destitute of alarming symptoms, that it is with difficulty such persons could be persuaded to submit to the usual restrictive treatment.

It is not strange, therefore, that such cases, which had been neglected for two or three days in the early and curable stage of attack, should terminate in fatal black vomit in a few hours after the physician is summoned to the bedside of his patient. So much for the apparent malignancy of the present epidemic. In making the foregoing explanation, we aim not to deny the existence of an occasional case of extreme severity; so severe, indeed, as to terminate in death in a few hours, in spite of the best efforts of the most skilful physician, and the most careful nursing.

In some instances, the system seems so thoroughly saturated with the poison of the disease, from the very moment of seizure, that no system of medication, as yet suggested, seems able to cope with and stay the fatal tendency of the fever. Every medical man, who has had much experience in the disease, must remember occasional instances of this kind.

The disease this season, though essentially the same in many of its most prominent features, exacts perhaps, on the part of physician and nurse, more care, diligence, and precaution, to terminate favourably, than usual in our epi-

demics. The slightest imprudence, either in diet, exposure, or excitement of any kind, is almost certain to superinduce a relapse, from which state it is usually very difficult to extricate the patient. Hence the great mortality among those who are not only ignorant of the peculiarities of the disease, but who are also unable, and in some instances unwilling, to pay for the requisite medical aid and attendance.

We refer to our table below, furnished by Dr. Simonds, the active Secretary of the Board of Health, for a full account of the deaths, and other particulars which have occurred since the epidemic broke out. By this it will be seen that yellow fever has done terrible execution among our unacclimated population, has produced a mortality unparalleled in the history of our ill-fated city. Even while penning these lines the fever is sweeping off over *two hundred per diem;* and, from present appearances, it is likely to continue its fearful ravages for perhaps weeks to come.

Our quondam associate, Dr. Fenner, will, in due time, give us a full and detailed history of this epidemic, as he did that of 1847, when the disease shall have run its course, and done its work of death.

Below we give the mortality produced by the epidemic, in the city of New Orleans, from the 28th May up to the 26th August, inclusive, for 1853.

The Epidemic.—Total number of deaths by yellow fever and other diseases, from May 28 till date:—

Week ending		Total.	Yellow Fever.	Other Diseases.	Not stated.
May	28	140— 140	1— 1	139— 139	...
June	4	157	1	156	...
"	11	154	4	150	...
"	18	147	7	140	...
"	25	167— 625	9— 21	158— 604	...
July	2	177	25	152	...
"	9	188	59	129	...
"	16	344	204	140	...
"	23	617	435	182	...
"	31	884—2210	704—1427	138— 741	42
August	1	142	106	25	11
"	2	135	115	14	6
"	3	146	124	17	9
"	4	166	135	15	10
"	5	150	128	9	13
"	6	238	194	30	14
"	7	209—1186	165— 967	40— 150	4—69
"	8	219	187	23	9
"	9	201	166	21	14
"	10	230	193	33	4
"	11	233	192	13	18
"	12	207	180	25	2
"	13	214	179	22	13
"	14	232—1526	191—1288	26— 163	16—75
"	15	217	187	24	6
"	16	193	163	19	11
"	17	219	191	21	7
"	18	219	188	22	9
"	19	234	203	15	16
"	20	224	184	29	11
"	21	269—1575	230—1346	24— 154	15—75
"	22	283	239	29	15
"	23	258	220	24	14
"	24	222	188	23	11
"	25	218	186	19	13
"	26	193—1074	151— 884	29— 124	13—66
Total		8336	5934	2075	327

N. B. The returns from St. Patrick's Cemetery, since the 31st July, not having been duly made, cannot be relied on, except for two weeks, when the books were resorted to by the Secretary, to enable him to make a weekly report. —*New Orleans Medical and Surgical Journal*, Sept. 1853.

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Quinia in Yellow Fever.—The editor of the *New Orleans Medical and Surgical Journal* states (No. for Sept. 1853) that his "experience during the present epidemic, with the sulphate of quinia, has convinced him that large doses of this salt cannot be relied on in the early stages of the attack.

"In the commencement of the epidemic, the advocates of large doses of quinia soon found that this article, when given in sedative doses, failed to accomplish a cure, although the febrile symptoms gradually gave way to its use.

"As the epidemic progressed, and its type and characteristic symptoms became better known, few, as far as we can learn, ventured to give large and repeated doses of this salt, except in particular instances. In our previous epidemic of yellow fever, the quinia practice succeeded best; but it is generally conceded, as far as we could ascertain, that this season it failed in a majority of cases to sustain its previous high reputation as a powerful curative agent. Hereafter, we shall have more to say on this subject."

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Malformation successfully treated by Operation.—Dr. Geo. Hayward, of Boston, states (*Virginia Med. and Surg. Journ.* July, 1853) that he was desired to examine a female infant, three or four days old, in consequence of a malformation about the anus. On inspection, no external opening of the bowel could be discovered; but, in separating the labia, it was found that the urethra and vagina were perfect, and at two or three lines behind the vagina, there was a small orifice, sufficient to admit the large end of a probe, through which the feces were discharged.

"The child did not seem to suffer at all, and I heard nothing of it for more than a year, though I visited frequently the family to which it belonged. A few days after it was weaned, which was in January last, I was called to visit it, and was told that since the change in its diet it had apparently suffered very much in its efforts to discharge the contents of its bowels. These efforts were violent, almost constant when the child was awake, and afforded scarcely any relief. Since it had ceased nursing, it had become emaciated and very feeble, and had but little continuous or quiet sleep.

"After it was weaned, its diet consisted of milk and barley flour, and the feces, no doubt in consequence of the change in the food, had become of much greater consistence. The contents of the bowels were forced out by violent straining in small pieces, quite solid, about the size of a duck shot.

"On examining the parts, I found that the outlet of the bowel was but little if any larger than when I saw it before, and the large end of a probe did not pass very readily into it. The moment, however, that it was introduced, strong convulsive efforts followed, and it was evident that there was a great accumulation of fecal matter in the intestine, lying in the hollow of the sacrum.

"As it was apparent that the child would not live long in this way, I suggested the expediency of attempting to relieve it by an operation; though I confess that I was not very sanguine as to its success, nor did I give a very favourable prognosis to the parents as to the result. They consented, however, and on the following day, January 26, I performed it in the following way:—

"The child, having been rendered insensible by the inhalation of rectified sulphuric ether, was laid on a table. A director of the smallest size was introduced, though with difficulty, about an inch into the bowel, with the groove towards the sacrum. With a very narrow knife passed into the groove, I enlarged the external opening of the bowel sufficiently to admit my forefinger, and continued the incision upwards nearly to the end of the director; I then found that I could pass my finger readily into the bowel, which appeared to be of the usual size, till within about an inch of its outlet, where it had been contracted into a small canal, certainly not one-fourth as large as the bowel above.

"I did not consider it necessary to carry the incision any farther; nor did I

deem it safe; partly from the fear of hemorrhage, and in part from an apprehension that, if I did so, I should destroy the retentive power of the bowel, as sometimes happens from an operation for fistula in ano, where it has been found necessary to divide the parts high up.

"Lint was applied to the edges of the wound, and a cloth wet in cold water laid over it. There was no bleeding, except a slight one at the time; the child was evidently relieved, though the fecal matter was not discharged till castor-oil was administered on the following day.

"In two days after the operation, I introduced a moderate-sized rectum bougie, of a diameter as large as that of the bowel, and this has been done daily to the present time. In a very few days the wound healed, and the child has apparently suffered no inconvenience since. It has regular evacuations of a proper consistence, without the use of medicine. It has the entire control of the bowel, and has regained its health. It is now as vigorous and active as female children of that age usually are.

"I examined the parts very recently, four months after the operation. The anus can now be seen without separating the labia; but the perineum is covered with the same delicate mucous membrane that lines the vagina. Whether this will ever be productive of inconvenience, it is not perhaps easy to say; it is probable that this membrane may lose some of its sensibility, but there is no reason to suppose that it will acquire the properties of the ordinary covering of the body.

"This case must be regarded as a favourable one of malformation of this kind. In some that have been described, the opening into the vagina was as large as the diameter of the bowel, and there was no sphincter; while here, the lower part of the rectum was contracted into a very narrow canal, furnished with muscular power sufficient to prevent the involuntary discharge of the feces. Where there is no provision of this kind, the malformation must of course be one of the most disgusting character."

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Strychnia in Lead Colic.—Dr. Swett called the attention of the New York Medical and Surgical Society (Sept. 18, 1852) to a point in practice, which he brought before their notice a year or two ago—the use of strychnia in lead colic, in moderate doses, say the sixteenth part of a grain, three times a day. This has become the settled practice in the New York Hospital. Relief is usually experienced within forty-eight hours; the bowels act, and the disease subsides. He recalled to mind one case, however, which went four days before relief was afforded. He also related the case of a young Englishman, a clerk in a drug store, who was admitted to the hospital a few weeks ago, with what was at first considered as ordinary colic. After a time, however, the following facts were elicited. It appeared that, upon first opening the store in the morning, he had been in the constant habit of taking a glass of soda-water, which had remained over night in the lead pipe connected with the fountain. Strychnia was used in this case with great success. The doctor stated that, under the use of this drug, he has noticed twitching of the abdominal muscles before a passage from the bowels. He thinks that the disease is consequent upon paralysis of the intestines, and that strychnia, by acting upon the nerves, relieves it.

Dr. Bulkley remarked that he had employed the strychnia treatment in colica pictonum, and stated that since the first of August there had been five cases of the disease successfully treated with that remedy during his attendance in the New York Hospital. He remarked, as a curious fact, that in ordinary paralytic cases the exhibition of strychnia will not affect the bowels.

Dr. B. mentioned a second case which had occurred this summer, from drinking soda-water early in the morning, which had become impregnated with the lead poison by standing in the fountain over night. Also, an obscure case of this disease, now under treatment, in which the patient had suffered for seven or eight years. He was relieved by the use of strychnia, and is rapidly improving.—*New York Medical Times*, Aug. 1853.

Uva Ursi a Substitute for Ergot.—Dr. E. G. HARRIS, of Fayette, Ala., calls attention (*Southern Med. and Surg. Journ.* Sept. 1853) to uva ursi as a substitute for ergot, in producing uterine contraction. Since December last, he has given it in five cases.

Dr. H. makes an infusion of two ounces of uva ursi in a pint of boiling water, one-fourth to be given, as hot as it can be drunk, every ten or fifteen minutes, until it has the desired effect.

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Cockle-Bur in Rima-Glottidis removed with Forceps.—Prof. DUGAS, of Augusta, Ga., records (*Southern Med. and Surg. Journ.* Aug. 1853) the following interesting case:—

"York, a negro boy, twelve years of age, belonging to Mr. ——, of Columbia County, was engaged, in November last, in removing cockle-burs from the mane of a horse, and put one of them in his mouth. By a sudden inspiration, the bur was carried down his throat, and he immediately experienced some difficulty in breathing, attended with frequent coughing. Medical aid was invoked, and an emetic administered without relief. The boy continued in this state several days, and was then brought to this city. We found that he breathed and coughed as though affected with œdema-glottidis or with membranous croup; his voice was extinct, and he spoke in a whisper; on walking briskly, he suffered for want of breath; he pointed to the thyroid cartilage as the seat of soreness; had some arterial excitement; nothing abnormal heard on auscultating the lungs, but a whiz was perceived on placing the stethoscope upon the larynx. By the most careful ocular inspection of the pharynx, the bur could not be seen. The finger being, however, carried down below the epiglottis, would feel the bur rise up against its extremity whenever the larynx was elevated by an attempt at deglutition. The cockle-bur was evidently situated vertically, with one end within the laryngeal aperture, and so securely fixed, by means of its minute hooks, into the mucous membrane, that its position could not be changed by such delicate touches with the finger as I thought it prudent to make during the momentary contact alluded to. A pair of œsophageal forceps being at hand, I made, in vain, repeated attempts to seize the bur, until the patient became very much exhausted. The continual movements of the larynx presented an insuperable difficulty. He was then allowed to rest, and an emetic of ipecacuanha administered in the evening, in the hope that the bur might be dislodged during the efforts to vomit. This also failed, as it had done before.

"On the following morning (Nov. 8), I provided myself with a pair of small curved polypus forceps, and carrying the index-finger of the left hand down below the epiglottis, forcibly drew this upwards, and at the same time glided the finger still lower, until its extremity rested in contact with the bur. The forceps were now with the right hand carried along the finger, and the bur effectually seized and extracted, after but one failure.

"In looking over the standard surgical authorities, we find no allusion whatever to the method adopted in this case, to bring the finger in contact with the larynx, and to stay its movements during the introduction of the necessary instruments. Some of those who treat at all of the removal of bodies lodged in the rima-glottidis, recommend, in general terms, their extraction with forceps, if possible, and when this cannot be done, advise immediate recourse to tracheotomy. Others make no mention whatever of the use of forceps, but resort at once to the knife. We have not had the leisure to examine *all* the written authorities at hand, and would therefore simply lay the subject before the profession, who may judge of its value as well as its originality. It may be sometimes difficult or impossible, in adults, to introduce the finger sufficiently far below the epiglottis to draw this forwards effectually, and to carry the finger to the larynx at the same time that its movements are prevented. But in children this can very rarely be the case."

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July, 1853.

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